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INTRODUCTION

Thanks to a generous grant from the Rockefeller Foundation, I was able in the spring of 1951 to spend four months on museum studies in the United States and Canada. The main task was to carry out the basic taxonomic work for a carabid fauna of Newfoundland. I started with the determination of my own material, collected in 1949 with a grant from the Arctic Institute of North America, and then proceeded with the study and revision of the Newfoundland material in the larger public and private collections, as far as available. Labrador and Nova Scotia records were listed at the same time. Eventually the study was enlarged to cover all carabid species common to Europe and North America with the purpose of making a revised list for publication. Occasionally other special taxonomic problems were attacked. Thus preliminary work was done for revisions of the North American species of *Diachila*, *Blethisa*, *Notiophilus*, *Pristodactyla*, and *Europhilus*. The results obtained will appear in a series of papers, in part regional (covering Newfoundland, Nova Scotia, and Labrador), in part purely taxonomic (on the genera mentioned above and on the Kirby types). It seems convenient, however, to present here a summary of all changes proposed in the nomenclature of North American Carabidae, especially as some of them are not concerned with the special investigations mentioned. In the latter cases full reasons for my opinions are given here, but in the others the reader is referred to the special papers mentioned above. As a rule, only new synonymies are listed, but in a few cases the confirmation of already accepted synonymies by re-examination of typical specimens is considered worth giving.

In three cases (*Bembidion concolor*, *Pterostichus mandibularis*, *Agonum affine*) the revised synonymy unfortunately requires that a

name in use is transferred from one species to another within the same genus. In order to avoid hopeless confusion in these cases I have proposed to keep the name to be moved "in quarantine" for the time being, i.e. to regard it as a *nomen in praesens suppressum* until the name substituted for it in its old sense has become generally established.

Furthermore, I should like to point out that declarations of synonymy in this paper do not necessarily forbid the existence of *subspecific* differences. In some cases sufficient material was not available to decide about subspecies, and in such cases a statement of the *specific* identity is always the first and most important step.

The main part of my work was done at the Museum of Comparative Zoology, Cambridge, Massachusetts, where the foundation of North American coleopterology, the Leconte Collection, is preserved, supplemented in an excellent way by the admirable and modern Fall Collection. The Curator of Coleoptera at this museum, Dr. P. J. Darlington, Jr., gave me unlimited support not only from the museum's collections but also from his own vast experience of North American Carabidae.

At the National Museum, Washington, District of Columbia, where the Casey Collection was the most interesting subject, I was generously aided by Dr. E. A. Chapin and Dr. R. E. Blackwelder. In New York, Dr. M. A. Cazier placed the material of the American Museum at my free disposal. I am especially indebted to Dr. W. J. Brown, of the Department of Agriculture, Ottawa. Dr. Brown's great experience of the fauna of northern regions was of indispensable value to me. The very rich collection of Canadian-Arctic beetles in his charge at Ottawa revealed several Palearctic species hitherto unknown in America.

Very useful was the examination of W. Kirby's types at the British Museum, and the C. G. Mannerheim types in the Museum at Helsingfors, Finland. I am most grateful to the officials of these two institutions for kind advice and assistance.

Most of the synonymies proposed below concern names given by Casey. It may therefore be of some interest to say a few words on his work and his collection, preserved at the United States National Museum in an excellent condition, thanks to the efforts of L. L. Buchanan (*vide* his paper of 1935, and Blackwelder 1950). This collection possesses a remarkable and unique quality: I was unable, in any case, to find two species confused under the same name label! This is characteristic of the positive side of the remarkable person Thomas L. Casey. He was an engineer by profession, but also as an

entomologist. To him the members of a species had to show *absolute identity*, like the cogs of a machine. He made no allowance for intra-specific variation. Almost any deviation was described as a new species or, in some few cases, subspecies. Probably it never occurred to him that his rigid demand upon the species concept was contradictory to evolution, simply because he did not realize that his specimens had been living organisms. Perhaps he did not believe in evolution at all. Apparently he never allowed himself to work by instinct, to get a general idea of the "habitus" of a species. It appears from what I was told, that to identify a specimen he always put it directly under the microscope at high magnification. It is no wonder that many of Casey's "species" are simple aberrations or even anomalies, especially among those described in the last volume of his *Memoirs* (Vol. 10, 1924). His method of giving all revisions and most of his descriptions in the form of dichotomous tables was extremely unfortunate. Closely related species often became widely separated in this way, and the reader is usually completely denied the opportunity of making a comparative analysis of them. Only in exceptional cases can the student get an indisputable determination by using Casey's keys, and therefore, an examination of the typical specimens in his collection is usually the only reliable way to get definite determinations. The types must be examined in all groups treated by Casey before North American coleopterology can get a safe basis on which to build in the future. This will result in a complete rearrangement of Leng's Catalogue. Judging from my experience in Carabidae, I should guess that not more and perhaps less than 20 per cent of Casey's species will prove valid or worthy of being preserved even as subspecies.

In this connection I can not help regretting the rigid regulations of most American museums, forbidding any type specimen to be taken outside the building. At present it is impossible to have a Leconte and Casey type side by side for comparison. I dare say that a more liberal attitude would shorten by decades the way to stability in the coleopterological taxonomy of North America.

The male genitalia of Carabidae in most genera possess excellent specific characters. When male types were available, I therefore usually made a genital slide. This is indicated by an asterisk (*) after the species name.

It may be useful to describe briefly the simple method used for genital dissections. After the insect has been softened it is put under the microscope in a drop of water, the elytra are moved apart, and

the penis is dissected out through the dorsum. It is cleaned in water, transferred for a minute to absolute alcohol, and finally put into clove oil, which makes the whole organ transparent and thus reveals the armature of the internal sac. Boiling in KOH immediately after the dissection removes muscles and ligaments and gives clearer details. The habit, prevalent in America, of killing and preserving beetles in alcohol is not good for specimens used for dissection: they get too fragile and, above all, the rapid infiltration of the alcohol into the living insect often causes a total or partial eversion of the internal sac, putting it in a position quite unsuitable for comparative study. Beetles killed in vapour of ethyl acetate give the best dissections.

The following abbreviations of museum names are used here.

AMN = American Museum of Natural History, New York.

BMN = British Museum, Natural History, London.

CMP = Carnegie Museum, Pittsburgh, Pennsylvania.

DAO = Department of Agriculture, Ottawa, Ontario, Canada.

MCZ = Museum of Comparative Zoology, Cambridge, Massachusetts.

NMW = United States National Museum, Washington, D. C.

UMH = Zoological Museum, University, Helsingfors, Finland.

CHANGES IN SYNONYMY

The species are arranged according to Leng's Catalogue (1920), with species added in Supplements I-V (1927-1948) put at the end of each genus (with the number of the supplement in brackets). The Leng number of each species is given, and names listed by him as synonyms are marked "(syn.)". Species not listed in the catalogue or supplements are inserted without numbers in the proper places below.

115 *Trachypachys holmbergi* Mnh. 1853 (*inermis* Mtsch. 1864 [not 1845]), is not identical with *zetterstedti* Gyll. 1827, as maintained by Hatch (1933b, p. 117). The penis is quite different.

227 *Elaphrus obliteratus* Mnh. 1853. Types ♂* ♀ (Kadjak, Alaska, UMH) = *lapponicus* Gyll. 1810 (which is not a synonym of 230 *riparius*).

227(syn.) *E. obscurior* Kby. 1837. Type ♀ (BMN) = *lapponicus* Gyll. 1810 (227 *obliteratus* Mnh. 1853).

233 *E. ruscarius* Say 1834. I am unable to find any other difference from 230 *riparius* L. 1761 than the coarser and sparser punctuation of the prosternum. Outer and inner structure of penis seems identical.

The two forms are at least not specifically distinct.

235 *Diachila subpolaris* Lec. 1863. Type ♂* (Hudson Bay Territory, CMP) = *arctica* Gyll. 1808 sbsp. *amocna* Fald. 1835, described from southern Siberia. The species usually placed under the name "*subpolaris*" in American collections is *polita* Fald.

238 *Blithisa multipunctata* L. 1761 occurs in America only as sbsp. *aurata* Fisch. 1828 (*hudsonica* Csy. 1924).

239 *B. columbica* Csy. 1909. Type ♂* (British Columbia) = 240 *oregonensis* Lec. 1853, as already suggested by Hatch (1949, p. 114).

18582(I) *B. hudsonica* Csy. 1924. Type ♂* (Edmonton, Alberta) = *multipunctata* L. 1761 sbsp. *aurata* Fisch. 1828.

241(syn.) *Loricera neoscotica* Lec. 1863. Type ♀, paratype ♂* (Nova Scotia) = 241 *pilicornis* Fbr. 1775 (*coeruleus* auct. nec L.), contrary to Csy. 1920, p. 146.

248(syn.) *Notiophilus hardyi* Putz. 1866. Original example from Newfoundland in coll. Lec. (MCZ) = *aquaticus* L. 1761, in accordance with Fall 1906, p. 84, but contrary to Csy. 1920, p. 140, 143.

250(syn.) *N. evanescens* Csy. 1913. Type and 4 paratypes (Boulder, Colorado) = 250 *simulator* Fall 1906, as stated by Csy. himself (1914, p. 356), but later disputed by him (1920, p. 141).

18584(I) *N. sierranus* Csy. 1920. Single type ♀ (California) = 255 *nitens* Lec. 1857 (dwarf specimen).

18585(I) *N. coloradensis* Csy. 1920. Single type ♂ (Boulder, Colorado) = 247 *semistriatus* Say 1823.

18587(I) *N. parvus* Csy. 1920. Single type ♀ (New York) = 251 *novemstriatus* Lec. 1848.

N. lanci Hatch 1949. Paratypes ♂* ♀ (Pierce, Idaho) = 18586(I) *directus* Csy. 1920.

258 *Leistus nigropiceus* Csy. 1913. Paratype ♂* (Metlakatla, British Columbia) = 257 *ferruginosus* Mnh. 1843, as already suggested by Hatch (1949, p. 115).

276a *Nebria castanipes* Kby. 1837. Type ♀ = 276b *moesta* Lec. 1850. Kirby's name is valid. It is a subspecies of the Palaearctic *gyllenhalii* Schh. (*rufescens* Stroem).

276b *N. moesta* Lec. 1850. The 4 types (Lake Superior) have nothing to do with 276 *sahlbergi* Fisch. 1821. The closest relative of *moesta* is the Palaearctic *gyllenhalii* Schh. 1806, of which it may be regarded as a subspecies (Bänninger 1925, pp. 259, 279). Valid name is *castanipes* Kby. 1837 (see above).

18590(I) *N. labradorica* Csy. 1920. Type and 5 paratypes (West St. Modest, Labrador) = 276a *gyllenhali* Schh. 1806 sbsp. *castanipes* Kby. 1837 (*moesta* Lec. 1850) (see above).

18591(I) *N. prominens* Csy. 1920. Type and paratype (Mt. Washington, New Hampshire) = 276a *gyllenhali* Schh. 1806 sbsp. *castanipes* Kby. 1837 (*moesta* Lec. 1850).

18592(I) *N. eurtulata* Csy. 1924. Type and 2 paratypes (West St. Modest, Labrador) = 276a *gyllenhali* Schh. 1806 sbsp. *castanipes* Kby. 1837 (*moesta* Lec. 1850).

18598(I) *N. nimbosea* Csy. 1920. Single type ♀ (Mt. Washington, New Hampshire) = 285 *suturalis* Lec. 1850.

323 *Dyschirius aeneus* Dej. 1825 is different from *integer* Lec. 1849 which has a very characteristic frontal sculpture. Apparently, as already suggested by Fall (1926, p. 130), the Palaearctic *aeneus* does not occur in America. I tried in vain to get a specimen of *frigidus* Mnh. 1853 for comparison; the type is not in UMH.

18603(I) *D. aurcolus* Notm. 1920. Paratype ♂* (Schoharie, New York, Staten Island Museum) = *politus* Dej. 1825 from Europe and Siberia. *D. subpunctatus* Hatch, according to 2 paratypes*, is related but specifically distinct.

20696(II) *D. sceretus* Fall 1926. Paratype ♂* (Anchorage, Alaska) = *helléni* Müll. 1922 (*norvegicus* Munst. 1923) from Siberia and Fennoscandia.

367(syn.) *Clivina collaris* Hbst. 1786 was regarded as a form of *fossor* L. 1761 by Jeannel (1941, p. 257; also by Hatch 1949, p. 118) but is specifically distinct as suggested by Brown (1950, p. 198). Jeannel originally failed to find males among *collaris* because there is no external sexual difference in this species. When, later, males were dissected (Jeannel 1949, p. 4) he regarded the two forms as specifically distinct but was unable to separate them on penis characters. A comparison of clove oil slides, however, reveals clear differences (fig. 1). The basal part of the penis is differently shaped, with stronger carinae in *fossor*, and also the apex. The spines of the internal sac are longer in *fossor*. The simplest external character separating the two species is the stronger, almost granulate microsculpture of the last ventral segment in *collaris*. This species apparently is constantly macropterous whereas *fossor* is dimorphic, in America as well as in Europe. I have seen both forms from Montreal and from Newfoundland.

367(syn.) *C. elongata* Rand. 1838, according to the description of

colour and the locality (Massachusetts), belongs to *collaris* Hbst. 1786 and not to *fossor*.

411 *Bembidion littorale* auct. Amer., nec Ol. = 18612(I) *B. (Chryso-bracteon) carrianum* Csy. 1924: type ♀ (Edmonton, Alberta), 2 para-types ♂* (St. Albert, Alberta). See also 412 *lacustre*, below. The Palaearctic *littorale* Ol. does not occur in America.

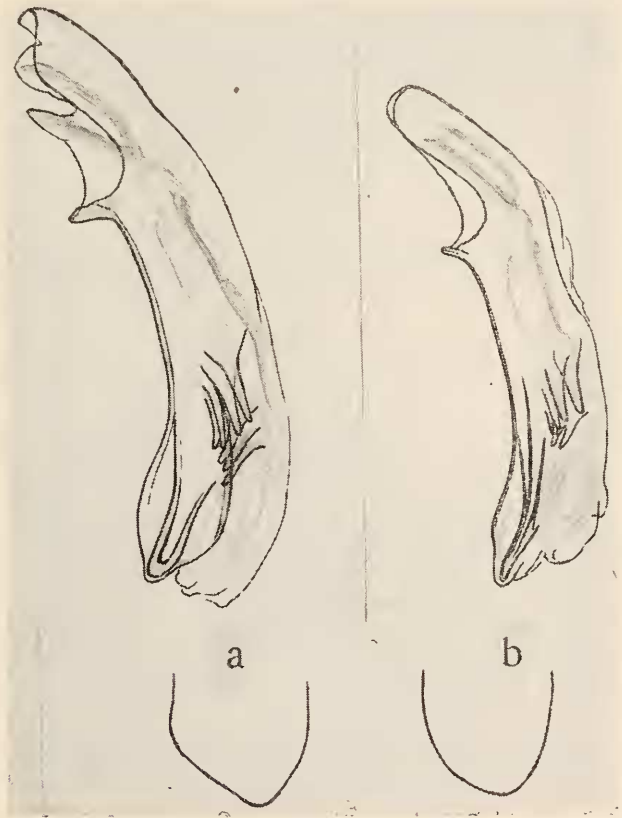


Fig. 1. Penis, side view, and dorsal view of apex: a, *Clivina fossor* L. (Montreal); b, *C. collaris* Hbst. (Stoneham, Massachusetts.)

412 *B. lacustre* Lec. 1848. Type ♀ (Lake Superior) = 408 *B. (Chrysobracteon) inaequale* Say 1823. Fall (1910, p. 94) was wrong in uniting *lacustre* and *littorale* auct. Amer.

474 *B. turbatum* Csy. 1918. Type and paratype, both ♀ (Colorado) = subspecies of the Siberian *B. (Plataphus) gebleri* Gebl. 1833 (*frigidum* J. Sahlb. 1880). And 475 *B. conflictum* Csy. 1918 is a synonym (see below).

475 *B. conflictum* Csy. 1918. Type ♂* (Colorado) = 474 *B. (Plataphus) gebleri* Gebl. 1833 sbsp. *turbatum* Csy. 1918. Penis is a little less arcuate than in *gebleri* f. *typ.* (fig. 11d; Lindroth 1943, p. 10), with inner armature almost identical. In DAQ is 1♂ (Mabel Lake, British Columbia, H. Leech) which according to the penis apparently belongs to the same form. In NMW are 1♂ each* from National Park, Wyoming, and Banff, Alberta.

479 *B. bucolicum* Csy. 1918. According to Netolitzky (1931, p. 161), who examined types of both, this is a synonym of *B. (?Trechonepha) kuprianovi* Mnh. 1843 (Leng, p. 53, without a number). Another synonym is *ovipenne* Mtsch. 1845 from Sitka, Alaska (Netolitzky 1935, p. 23).

483 *B. solutum* Csy. 1918. Single type ♀ (California) = 482 *B. (Plataphus) planatum* Lec. 1848.

484 *B. adjutor* Csy. 1918. Type ♀, paratypes ♂* ♀ (California, 3 localities) = 482 *B. (Plataphus) planatum* Lec. 1848.

486. *B. simplex* Hayw. 1897 is not the manuscript name of Lec., to which the author refers. Leconte's "type" (Lake Superior) = 476 *B. (Plataphus) rusticum* Csy. 1918. None of the 4 "*simplex*" in coll. Lec. belongs to Hayward's species, a *Trechonepha*. Penis of *simplex* Hayw., figure 9c.

487 *B. planiusculum* Mnh. 1843. Types ♂* ♀ (Sitka, Alaska, UMH). This species, a true *Plataphus*, has been generally misidentified. Usually the name has been used for 476 *rusticum* Csy. (see Notman 1920, p. 185). Penis of *planiusculum*, figure 11a.

492 *B. flebile* Csy. 1918. Type ♀, several paratypes, ♂* ♀ (California) = *B. (Plataphus) complanulum* Hayw. 1897 (*nec* Mnh. 1853). The name *fleBILE* is valid for the small, light western form of the species (*cf.* 18623 *carolinense*, below).

493 *B. tumefactum* Csy. 1918 (not *tumefactum*). Type ♀, paratype ♂* (California) = 492 *B. (Plataphus) fleBILE* Csy. 1918 (see above).

494 *B. decrepitem* Csy. 1918. Type ♂* (Colorado) = *B. (Plataphus) fleBILE* Csy. 1918 (see above).

498 *B. complanulum* Mnh. 1853. Type ♂* (UMH), paratype ♀ (coll. Lec., MCZ), both from Kadjak, Alaska. It is a true *Plataphodes* (see 18627 *parvulum*, below), whereas the *complanulum* of Hayward (1897, p. 65) and most other authors is a *Plataphus* (see 492 *fleBILE*, above). Only Fall, in his collection, recognized the true *complanulum*. Penis, figure 10a.

521 *B. concolor* Kby. 1837. Type ♀ = 529 *B. (Hirmoplastaphus) longulum* Lec. 1848 and Kirby's name is therefore valid for this species. To avoid hopeless confusion, I propose to regard *concolor* as a name "in praesens suppressum", until *salcbratum* Lec. 1848 has had time to become established as a substitute for *concolor* auct.

560 *B. nitens* Lec. 1850. Type ♂* (Lake Superior) = *B. (Peryphus) grapti* Gyll. 1827. Penis, figure 12b.

567 *B. militare* Csy. 1885. Single type ♂* (Long Island) = 572 *B. (Peryphus) lacunarium* Zimm. 1869 (*picipes* auct. nec Kby.) (see below).

572 *B. picipes* Kby. 1837. Types ♂* ♀ = 560 *B. (Peryphus) grapti* Gyll. 1827 (*nitens* Lec. 1850). *B. picipes* auct. must be changed to *lacunarium* Zimm. (see below).

572(syn.) *B. plagiatum* Zimm. 1869. Original ♀ (possibly the type, from Maryland) in coll. Lec. (MCZ) belongs to a species unknown to me and is not identical with *lacunarium* Zimm. (*picipes* auct. nec Kby.; see Hayward 1897; Fall 1926, p. 133).

572(syn.) *B. lacunarium* Zimm. 1869. Original ♀ (possibly the type, from New York) in coll. Lec. (MCZ) = *picipes* auct. nec Kby., and is therefore valid.

575(syn.) *B. sordidum* Kby. 1837. Type ♀ is a *Peryphus* distinct from *bimaculatum* Kby., well characterized in the original description and especially by the structure of the internal sac of the penis, as shown by males from Red River, Manitoba, compared with the type.

582 *B. canadense* Hayw. 1897. Type ♀ (Ottawa, Canada, MCZ) and a ♂* from Montreal, Canada (coll. Fall), both = *B. (Peryphus) stephensi* Crotch 1866, of western Europe.

583 *B. lepuseculum* Csy. 1918. Single type ♂* (Colorado) = 584 *B. (Peryphus) petrosulum* Gebl. 1833 (*lucidum* Lec. 1848).

584 *B. lucidum* Lec. 1848. Type ♀, paratypes ♂* ♀ (all Lake Superior) = *B. (Peryphus) petrosulum* Gebl. 1833 (*substrictum* Lec. 1848). Under the label "*lucidum*" in coll. Lec. is represented also *rupicola* Kby. (*lucidum* auct.) from California, Colorado, and New Mexico.

584(syn.) *B. substrictum* Lec. 1848. Type ♀ (Lake Superior) = *B. (Peryphus) petrosus* Gebl. 1833 (*lucidum* Lec. 1848).

585 *B. castalium* Csy. 1918. Type ♀, paratypes ♂* ♀ (Las Vegas, New Mexico) = 584 *B. (Peryphus) petrosus* Gebl. 1833 (*lucidum* Lec. 1848).

588a *B. rupicola* Kby. 1837. Types ♂* ♀ = *B. (Peryphus) lucidum* auct. (nec Lec. 1848), as already stated by Fall (1926, p. 133), whose label is attached to the ♀ type. Fassati's opinion that *rupicola* Kby. is a synonym of *ustulatum* L. (*tetracolum* Say) is wrong.

588b *B. tetracolum* Say 1823 sbsp. *nactum* Csy. 1918. Single type ♀ (New York) = a pure synonym of *B. (Peryphus) ustulatum* L. 1758 (*tetracolum* Say 1823). See also Fassati 1950 (p. 43).

590 *B. dilatatum* Lec. 1848. Type ♀ (Pennsylvania) = large form of 592 *B. (Bractcomimus n. subg.) chalcum* Dej. 1831. Several ♂♂ from New England, Nova Scotia, and Newfoundland, completely agreeing with the type externally, have penis structure identical with normal *chalcum*.

599 *B. fuscicrum* Mtsch. 1855 (correctly *fuscicrus*) = *B. (Peryphus) obscurellum* Mtsch. 1845. It is a circumpolar species which has gone under several names (cf. Netolitzky 1935, p. 33; 1942-43, p. 116). The penis is identical in specimens from northeastern Europe, Siberia and North America, and there seems no reason to establish any subspecies on the rather inconstant colour characters.

620 *B. mobile* Csy. 1918. Single type ♀ (Metlakatla, British Columbia) = 681 *B. (Eupctedromus) incrematum* Lec. 1860.

621 *B. semotum* Csy. 1918. Single type ♂* (California) = 681 *B. (Eupctedromus) incrematum* Lec. 1860.

622 *B. nubiferum* Csy. 1918. Single type ♂* (California) = 681 *B. (Eupctedromus) incrematum* Lec. 1860.

623 *B. gulosum* Csy. 1918. Single type ♀ (Idaho) = 681 *B. (Eupctedromus) incrematum* Lec. 1860.

646 *B. monstratum* Csy. 1918. The 6 types (northern Illinois), all more or less immature = 648 *B. (Notaphus) posticum* Hald. 1843.

647 *B. fenisex* Csy. 1918. The 3 types (Indiana) = 648 *B. (Notaphus) posticum* Hald. 1843, but are a little larger than usual and with broader prothorax.

649 *B. plectile* Csy. 1918. The 2 types (Indiana; Wisconsin) = 648 *B. (Notaphus) posticum* Hald. 1843, the form with extended yellow markings.

652 *B. graphicum* Csy. 1918. Type ♂ (Bayfield, Wisconsin) = 612 *B. (Notaphus) nigripes* Kby. 1837.

654 *B. exclusum* Csy. 1918. Single type (Illinois) = 648 *B. (Notaphus) posticum* Hald. 1843.

655 *B. intermedium* Kby. 1837. Type ♀ = 651 *B. (Notaphus) patrucle* Dej. 1831. Fall (1926, p. 133) was therefore right in regarding *rapidum* Lec. 1848 as the right name for *intermedium* auct.

657 *B. marcidum* Csy. 1918. Single type from New York, and additional specimen from Long Island, New York = 648 *B. (Notaphus) posticum* Hald. 1843, being unusually broad but otherwise typical.

679 *B. arcuatum* Lec. 1878. Type ♀, paratype ♂* (Marquette, Michigan) = 681 *B. (Eupetdromus) incrematum* Lec. 1860, type ♂* (Sitka, Alaska).

680 *B. graciliforme* Hayw. 1897. According to coll. Hayward (MCZ) it is a *Eupetdromus*, clearly different from 681 *incrematum* Lec. (*arcuatum* Lec.) (cf. Netolitzky 1931, p. 158). In coll. Casey it stands as "*arcuatum* Lec."

681 (syn.) *B. nigripes* Mnh. 1852 (nec Kby. 1837). Three ♂ "types"* (Sitka, Alaska, UMH) = *B. (Eupetdromus) incrematum* Lec. 1860. Netolitzky (1942-43, p. 48) confused Mannerheim's species with *tinctum* Zett. (cf. Lindroth 1944).

681 (syn.?) *B. dentellum* Thbg. 1785 does not occur in North America, since *B. (Eupetdromus) incrematum* Lec. is specifically distinct.

715 *B. tolerans* Csy. 1918. Type ♀, 6 ♂* ♀ paratypes (all Metlakatla, British Columbia) = 713 *B. (Furcacampa) decipiens* Dej. 1831, *sensu* Csy. 1918 (723 *versicolor* Lec. 1848).

723 *B. versicolor* Lec. 1848. Type ♀ (Lake Superior) and many additional specimens in coll. Lec. = 713 *B. (Furcacampa) decipiens* Dej. 1831, *sensu* Csy. 1918. But "*versicolor* Lec." in coll. Casey = *B. (Furcacampa) mimus* Hayw. 1897 (724 *pellax* Csy. 1918) (see below, unnumbered, at end of genus).

724 *B. pellax* Csy. 1918. Type ♂*, paratype ♀ (Rhode Island) = *B. (Furcacampa) mimus* Hayw. 1897 (p. 108) (see below, unnumbered, at end of genus).

731 *B. fraternum* Lec. 1857. Type ♀ (Georgia), paratype ♂* (Louisiana) = 648 *B. (Notaphus) posticum* Hald. 1843, according to an original ♂*, probably the type ("Middle States"), in coll. Lec.

754 *B. sulcatum* Lec. 1848. Type ♀ (Lake Superior) = *B. (Diplocampa) transparens* Gebl. 1829, circumpolar in distribution.

754(syn.) *B. trepidum* Lec. 1848. Type ♀ (Lake Superior) = 754 *B. (Diplocampa) transparentis* Gebl. 1829 (*sulcatum* Lec. 1848).

767 *B. connivens* Lec. 1852. Type ♂* (California) = 772 *B. (Trepanedoris) cautum* Lec. 1848 (type ♀, Rocky Mountains; genital slide made from Leconte specimen from La Veta, Colorado). The penis apex is a trifle longer in *connivens*, possibly a subspecific difference.

18621(I) *B. notmani* Csy. 1924. Single type ♀ (New York) = 476 *B. (Plataphus) rusticum* Csy. 1918.

18622(I) *B. essexense* Csy. 1924. Single type ♂* (New York) = 486 *B. (Trechonopha) simplex* Hayw. 1897.

18623(I) *B. carolinense* Csy. 1924. Type ♂* (North Carolina) = 492 *B. (Plataphus) flebile* Csy. 1918, but is the larger eastern form, probably worthy of being retained as a subspecies.

18624(I) *B. keeneanum* Csy. 1924. Single type ♀ (New York) = 18623(I) *B. (Plataphus) flebile* Csy. 1918 sbsp. *carolinense* Csy. 1924 (see above).

18627(I) *B. parvulum* Notm. 1922 = 498 *B. (Plataphodes) complanulum* Mnh. 1853. The type ♂* of Mannerheim's species (UMH) and 1 ♂* of *parvulum* from the original locality (Paradise Park, State of Washington, coll. Fall) agree completely in penis characters. This synonymy is indicated by Fall in his collection. Penis of *parvulum*, figure 10a.

18641(I) *B. exiguiceps* Csy. 1924. Type ♀ (British Columbia) = 584 *B. (Peryphus) petrosus* Gebl. 1833 (*lucidum* Lec. 1848). Whether the narrow head and prothorax indicate a subspecies, I am unable to decide.

18642(I) *B. semiaureum* Fall 1922. Type ♀, paratype ♀ (Humboldt, California), additional ♂* (Snoqualme, State of Washington), all in coll. Fall (MCZ) = macropterous subspecies of 594 *B. (Peryphus) sejunctum* Csy. 1918 (single type ♂* from New Mexico). There are small but apparently constant differences in the internal sac of the penis.

18646(I) *B. oblectans* Csy. 1924. Single type ♀ (Edmonton, Alberta) = 681 *B. (Eupctedromus) incrematum* Lec. 1860.

18647(I) *B. fortunatum* Csy. 1924. Type ♀, paratype ♂* (Edmonton, Alberta) = *B. (Eupctedromus) incrematum* Lec. 1860.

18653(I) *B. edmontonense* Csy. 1924. Single type ♂ (Edmonton, Alberta) = 754 *B. (Diplocampa) transparentis* Gebl. 1829 (*sulcatum* Lec. 1848). Casey overlooked the double frontal sulci.

18654(I) *B. contristans* Csy. 1924. Type and paratype (Rhode Island) = 648 *B. (Notaphus) posticum* Hald. 1843 (731 *fraternum* Lec. 1857), dark form.

18656(I) *B. lengi* Notm. 1919. Paratype ♂* (Ansable Lake, New York, AMN) = 681 *B. (Eupetcdromus) incrematum* Lec. 1860.

18658(I) *B. terracense* Csy. 1924. Single type ♂* (Terrace, British Columbia) = 713 *B. (Furcacampa) decipiens* Dej. 1831 (723 *versicolor* Lec. 1848).

20704(II) *B. yukonum* Fall 1926. Single ♂* type (Dawson, Yukon Territory, Canada, coll. Fall, MCZ) = *B. (Peryphus) grapeioides* Munster 1930 (*sahlbergioides* Munst. 1932), from northern Scandinavia and Siberia. Fall's name is valid. The penis is identical with that of European specimens (fig. 12c). The metasternum is shown in figure 6. I have seen two additional American males*, from Mount McKinley, Alaska (F. W. Morand, 1932, NMW), and Reindeer Depot, Mackenzie Delta, North West Territory, Canada (W. J. Brown, 1948, DAO). The type is macropterous; the other two, brachypterous.

20705(II) *B. mekinleyi* Fall 1926. Types ♂* ♀ (Alaska, coll. Fall, MCZ) = *B. (Daniela) scandicum* Lindroth 1943 (northern Scandinavia). Fall's name is thus valid. The only external difference between American and Scandinavian specimens seems to be the more diffuse microsculpture of the prothorax in American ones. But the penis (fig. 12a) is almost identical, except that the tricornered piece distally in the internal sac is somewhat different in shape and the longest stylet is straight, not slightly curved, in the single Alaskan male. There seems no reason at present to attach even subspecific value to these small differences.

21695(III) *B. bryanti* Carr 1932 (preoccupied by *Peryphus bryanti* Andrewes 1921). Holotype ♂ in DAO, allotype and several paratypes in different museums (all from Mackenzie River, northwestern Canada). In the holotype the internal sac of the penis unfortunately is everted, preventing a comparison. Among the paratypes 1 ♂* (NMW), though immature, gave a tolerably good genital slide,

showing complete agreement with the Palaearctic *B. (Chrysobracteon) lapponicum* Zett. 1840 (fig. 8a), which is the valid name. Another ♂* (Near Holy Cross, Lower Yukon, Alaska, NMW) gave a perfect slide, the penis differing from *lapponicum* (and probably also from *bryanti*) by its more slender form, the internal sac, however, being exactly the same. In external characters too the original *bryanti* are more like *lapponicum* than is the Alaskan example. The latter is more convex with more regularly and deeply punctured elytral striae, the 3rd interval less widened in front of the anterior "silver spot"; the eyes perhaps a little larger; the predominant colour of the upper surface brass green; the first antennal joint reddish brown with slight metallic reflection only above; the ground colour of the legs also (dark) reddish brown, with strong metallic lustre. In true *bryanti* only the base of femora is pale. The Alaskan form, judging from one single example, thus comes very close to the eastern Siberian subspecies *latiusculum* Mtsch. 1844 (see Lindroth 1939-40, p. 69).

B. mimus Hayw. 1897 (p. 108). This is a manuscript name of Leconte, also used in his collection ("type" ♀, Lake Superior). It was briefly but sufficiently characterized by Hayward, as a variety of *versicolor* Lec. It is a *Furcacampa*, identical with *versicolor* Csy. 1918 (nec Lec. 1848) and 724 *pellax* Csy. 1918, and is valid.

B. farrarae Hatch 1950. Paratype ♂* (State of Washington) = sbsp. of the Siberian *B. (Plataphodes) crenulatum* F. Sahlb. 1844 (penis, fig. 10e). Very closely related to 501 *quadriforeolatum* Mnh. 1843 (fig. 10b).

B. wenatchae Hatch 1950. Paratype ♂* (Moses Coulee, State of Washington) = 584 *B. (Peryphus) petrosus* Gebl. 1833 (*lucidum* Lec. 1848, etc.).

B. fenderi Hatch 1950. Paratype ♂* (Ocean Park, State of Washington) = 18642(I) *B. (Peryphus) sejunctum* Csy. 1918 sbsp. *semi-aureum* Fall 1922.

S92 *Tachyta inornata* Say 1823 is different from *nana* Gyll., as originally stated in Leng (also in Csiki 1928, p. 184). The synonymy was wrongly re-established in Csiki's supplement (1933, p. 1650), probably on the authority of Andrewes (1925, p. 486). The armature of the internal sac of the penis is identical but *inornata* lacks the

rudiments of carinae at the hind angles of the prothorax, present in the Palaearctic *nana*. Therefore *inornata* must be regarded as a different subspecies. From Say's description of *inornata* (1823, p. 87) it appears that *angulata* Csy. is excluded by the form of the prothorax, and Say would probably not have overlooked the pronounced prothoracic carina of *falli* Hayw. Casey's interpretation of *inornata* (1918, p. 218) is therefore probably right. The "*Tachys nanus*" of Hayward (1900, p. 198) is a complex, apparently including *angulata* Csy., which is distinct.

892(syn.) *T. picipes* Kby. 1837. Types ♂* ♀ = *nana* Gyll. sbsp. *inornata* Say 1823, *sensu* Csy. 1918. The penis is quite different from that of *falli* Hayw. and *angulata* Csy. but agrees completely with the Palaearctic *nana*.

902(syn.) *Patrobis longiventris* Mnh. 1853. Two types ♀ (Kadjak, Alaska, UMH) = *fossifrons* Eschz. 1823 *f. typ.* (Darlington 1938, p. 162).

903 *P. fulvus* Mnh. 1853. 2 ♂, one marked as type (Kadjak, Alaska, UMH) = immature specimens of *fossifrons* Eschz. 1823 *f. typ.* (Darlington 1938, p. 162).

909 *Trechus borealis* Schffr. 1915. Type ♂ (Battle Harbour, Labrador, NMW) = 910d *apicalis* Mtsch. 1845 sbsp. *micans* Lec. 1848, as generally accepted.

910 *T. fulvus* Lec. 1848. Type ♂* (Lake Superior) = *apicalis* Mtsch. 1845 sbsp. *micans* Lec. 1848 (type ♂*, Lake Superior), as generally accepted.

Lyperopherus innuitorum Brown 1949. ♂*, det. author (Chesterfield, North West Territory) = *Pterostichus (Lyp.) vermiculosus* Men. 1850, from the Eurasian tundra.

1143 *Cryobius fastidiosus* Mnh. 1853. Type ♂* (Kenai, Alaska) = 1144 *Pterostichus (Cryobius) brevicornis* Kby. 1837 (*mandibularis* auct. nec Kby.).

1144 *C. brevicornis* Kby. 1837. Two types ♂* ♀ = *fastidiosus* Mnh. 1853, so the Kirby name is valid. This is the species known as *mandibularis* in Labrador, Newfoundland, and New England. Specimens from east of Hudson Bay differ by paler, more slender palpi and probably form a distinct subspecies. There are no constant differences

in form and inner armature of penis.

1145 *C. mandibularis* Kby. 1837. Type ♂ (without abdomen) = a bright metallic species, quite different from what is regarded as *mandibularis* in northeastern North America (i.e. *brevicornis* Kby.). Kirby's "var. b" is different from both of them. Owing to the complete confusion in the nomenclature of subg. *Cryobius*, I am unable to state any possible synonyms of *mandibularis* f. *typ.* and its "var. b".

Page 58 (without number) *Cryobius arcticus* J. Sahlb. 1880. Type ♂* (Kola Peninsula, Russia, UMH) = 1144 *Pterostichus* (*Cryobius*) *brevicornis* Kby. 1837. Already placed as a synonym of 1143 *fastidiosus* Mnh. 1853 by Poppius 1906 (p. 192).

18702(I) *Omascus brevbasis* Csy. 1924. Single type ♀ (New York) = 1174 *Pterostichus* (*Melanius*) *caudicalis* Say 1823 (dwarf specimen).

18703(I) *O. tenuis* Csy. 1924. Single type ♀ (New Jersey) = 1175 *Pterostichus* (*Melanius*) *luctuosus* Dej. 1828.

18704(I) *O. confluens* Csy. 1924. Type ♂ (Rhode Island) paratypes ♀ (no loc.) = *Pterostichus* (*Melanius*) *luctuosus* Dej. 1828.

18705(I) *O. aequalis* Csy. 1924. Single type ♀ (New Jersey) = 1176 *Pterostichus* (*Melanius*) *corvinus* Dej. 1828 (large specimen).

18706(I) *O. testaceus* Csy. 1924. Single type ♀ (Rhode Island) = 1175 *Pterostichus* (*Melanius*) *luctuosus* Dej. 1828 (immature).

18707(I) *Dysidius egeus* Csy. 1924. Single type ♀ (New Jersey) = 1178 *Pterostichus* (*Dysidius*) *mutus* Say 1823 (dwarf specimen).

1181 *Pseudargutor erythropus* Dej. The subgenus- (or genus-) name "*Platysmatus* Lut." was introduced by Csiki (1933, p. 1666; Leng, II, suppl., 1933, p. 13) by mistake (*vide* Lutshnik 1929, p. 5), and in any case it cannot replace the earlier *Pseudargutor* Csy. 1918, as proposed by Leng (*loc. cit.*). Actually the American species belongs to *Lagarus*, and if this is regarded a subgenus of *Pterostichus*, as is usually done, the species name *leconteianus* Lut. 1921 becomes valid, with *erythropus* Dej. 1828 (nec Mrsh. 1802) and *nitidus* Kby. 1837 (nec Dej. 1828) as synonyms. The penis and parameres of the American species very much resemble those of the Palaearctic *vernalis* Panz. (very imperfectly figured by Jeannel 1941-42, p. 741). How Jeannel (*loc. cit.*) could join *Lagarus* with *Stomis*, I am unable to understand.

1182-1187. *Micromasceus* Csy. 1918 is preoccupied by Desbr. 1906

and is therefore changed to *Omasculus* Lrt. 1929 (*Americomascus* Cki. 1930). Actually these species belong to the Palearctic subg. *Argutor* Steph. 1828 of *Pterostichus*.

1189 *Bothriopterus latescans* Csy. 1913. Types ♂ ♀ (California) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823, or possibly a subspecies, in which case, however, *oblongiuseculus* Mtsch. 1859 (original example from California in coll. Lec.) seems to have priority.

1191 *B. sericeus* Csy. 1913. Single type ♀ (Clackamas, Oregon) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823. However 3 examples in MCZ (Creston, British Columbia), bearing the label "*sericeus*, comp. with type" (from coll. A. S. Nicolay) = *oregonus* Lec.

1193 *B. latebricola* Csy. 1913. 9 ex., ♂ ♀ (California) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1194 *B. luczoti* Dej. 1928. Described from Newfoundland. The author's remarks on the structure of the prothorax exclude *pen-sylvanicus* Lec. It therefore = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1195 *B. shastanus* Csy. 1913. Single type ♂ (Siskiyou, Colorado) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1196 *B. saxatilis* Csy. 1913. 8 ex., ♂ ♀ (Colorado; Idaho; Arizona) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1197 *B. laxicollis* Csy. 1913. 3 ex., ♂ ♀ (Colorado) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1198(syn.) *B. colligatus* Walk. 1866. Type ♀ (British Columbia, BMN) = *Pterostichus* (Bothr.) *oregonus* Lec. 1861, as already accepted.

1198(syn.) *B. obtusangulus* Mtsch. 1859. 1 ex. (probably original) in coll. Lec. = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1198(syn.) *B. motschulskyi* Mackl. 1857 (not 1859). The identification with *oregonus* Lec. is wrong; according to the description it = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1198(syn.) *B. scarpunctatus* Mnh. 1853. Types ♂* ♀ (Kadjak, Alaska, UMH) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

18709(I) *B. angusticollis* Csy. 1924. Single type ♂ (Canon, Utah) = 1192 *Pterostichus* (Bothr.) *adstrictus* Eschz. 1823.

1244 *Curtonotus rufimanus* Kby. 1837. Type ♂* = 1245 *Amara* (*Cyrtotus*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878, etc.).

1244(syn.) *C. brevilabris* Kby. 1837. Type ♂* = 1245 *Amara* (*Cyrtotus*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878, etc.).

1244(syn.) *C. lacustris* Lec. 1855. Type ♀ (Lake Superior). It is a distinct species and its penis (according to several males externally agreeing with the type) is quite different from that of 1245 *Amara* (*Cyrt.*) *torrida* Ill. (*rufimana* Kby., *brevilabris* Kby. *reflexa* Putz., *cylindrica* Lec., etc.).

1244(syn.) *C. reflexus* Putz. 1866. Original ♂ (Newfoundland, coll. Lec.) = 1245 *Amara* (*Cyrt.*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878, etc.).

1245 *C. cylindricus* Lec. 1878. Type ♂ (Colorado), paratype ♂* (Hudson Bay Territory) = *Amara* (*Cyrt.*) *torrida* Ill. 1798.

1247 *C. labradorensis* Csy. 1918. Type ♂*, 7 paratypes (W. St. Modest, Labrador) = 1245 *Amara* (*Cyrt.*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878, etc.).

1248 *C. scrutatus* Csy. 1918. Type ♂*, 2 paratypes (W. St. Modest, Labrador) = 1245 *Amara* (*Cyrt.*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878, etc.).

1251 *C. brunnipennis* Dej. 1831 is so closely related to the Palaearctic *Amara* (*Cyrt.*) *alpina* Payk. 1790, with which it is connected by intergrading forms, that it must be regarded as a subspecies.

1251(syn.) *C. obtusus* Lec. 1855. Type (Alaska) = *Amara* (*Cyrt.*) *alpina* Payk. 1790 sbsp. *brunnipennis* Dej. 1831.

1252 *C. rubripennis* Csy. 1918. 11 ex. (Colorado) in coll. Casey = 1251 *Amara* (*Cyrt.*) *alpina* Payk. 1790 sbsp. *brunnipennis* Dej. 1831.

1253 *C. deficiens* Csy. 1918. Type and paratype ♀, both immature (New Hampshire) = 1251 *Amara* (*Cyrt.*) *alpina* Payk. 1790 sbsp. *brunnipennis* Dej. 1831.

1254 *C. argutus* Csy. 1918. Type ♂, 4 paratypes (New Hampshire) = 1251 *Amara* (*Cyrt.*) *alpina* Payk. 1790 sbsp. *brunnipennis* Dej. 1831.

1255 *C. inanis* Csy. 1918. Single type ♀ (New Hampshire) = 1251 *Amara* (*Cyrt.*) *alpina* Payk. 1790 sbsp. *brunnipennis* Dej. 1831.

1258(syn.?) *C. hyperboreus* Dej. 1831. Dejean's description (especially colour of antennae, form of prothorax) shows beyond doubt that his species = *Amara* (*Cyrt.*) *elongata* Lec. 1850. Dejean's name is consequently valid. Further synonyms are: *peregrina* Mor. 1863, *simulans* J. Sahlb. 1880 (*Harpalus*), *imperfecta* Brown 1930.

18712(I) *C. albertanus* Csy. 1924. Type ♂*, 3 paratypes (Edmonton, Alberta), 1 additional ex. (Husavik, Manitoba) = 1245

Amara (*Cyrt.*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878).

18714(I) *C. brevipennis* Csy. 1924. Single type ♀ (North West Territory) = 1245 *Amara* (*Cyrt.*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878).

18715(I) *C. manitobensis* Csy. 1924. Type and paratype ♀ (Manitoba) = 1244 *Amara* (*Cyrt.*) *lacustris* Lec. 1855.

18716(I) *C. durus* Csy. 1924. Single type ♀ (Edmonton, Alberta) = 1245 *Amara* (*Cyrt.*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878).

18717(I) *C. biarcuatus* Csy. 1924. Single type ♀ (Edmonton, Alberta) = 1245 *Amara* (*Cyrt.*) *torrida* Ill. 1798 (*cylindrica* Lec. 1878).

18718(I) *C. subtilis* Csy. 1924. Single type ♂ (Stupart Bay, Labrador) = 1251 *Amara* (*Cyrt.*) *alpina* Payk. 1790 sbsp. *brunnipennis* Dej. 1831.

20731(II) *C. imperfectus* Brown 1930. Type and paratype ♀ (Bradore Bay, Labrador, DAO) = 1258 *Amara* (*Cyrt.*) *hyperborea* Dej. 1831 (*elongata* Lec. 1850).

1260 *Stercocerus hacmatopus* Dej. 1828. *Boreobia strigicollis* F. Sahlb. 1844 is a synonym according to 2 ♂* from the Lena River and Tschuktsch Peninsula, Siberia (UMH). *Stercocerus* Kby. 1837 (*Boreobia* Tschitsch. 1896) must be regarded as a subgenus of *Pterostichus* (cf. Buchanan 1924; Leech 1935.)

1268 *Bradytus nainensis* Csy. 1918. Type ♂* and paratype ♀ (Nain, Labrador) = 1269 *Amara* (*Bradytus*) *glacialis* Mnh. 1853.

1270 *B. putzeysi* Horn 1875. Single type ♀ (St. Pierre-Miquelon, coll. Lec.) = 1267 *Amara* (*Bradytus*) *apricaria* Payk. 1790.

1285(syn.) *Celia inaequalis* Kby. 1837. Type ♀ = *Amara* (*Celia*) *patruelis* Dej. 1831, as generally accepted.

1285(syn.?) *C. interstitialis* Dej. 1828 is not identical with *Amara* (*Celia*) *patruelis* Dej. 1831 and occurs only in the extreme North West (Alaska, Yukon Territory), whereas *patruelis* is transamerican.

1298(syn.) *C. laevipennis* Kby. 1837. 2 ♂* types (one without abdomen). A species distinct from *Amara* (*Celia*) *erratica* Dft. 1825. I know of no synonym.

1304 *C. paganica* Csy. 1918. Type ♀ (Marquette, Michigan) = 1323 *Amara* (*Celia*) *discors* Kby. 1837 (*gibba* Lec. 1855). Casey's paratype is a little different but probably belongs to the same species.

1309 *C. remotestriata* Dej. 1828 = the Palaearctic *Amara* (*Celia*) *quenschli* Schh. 1806. I do not think it is possible to separate the American population even as a subspecies.

1309(syn.) *C. discors* Kby. 1837. Type ♀ = 1323 *Amara* (*Celia*)

gibba Lec. 1855 and is thus valid.

18730(I) *C. columbiana* Csy. 1924. Single type ♀ (British Columbia) = 1285 *Amara (Celia) patruelis* Dej. 1831.

Isopleurus nitidus Kby. 1837. Type ♂* = 1350 *Amara (Celia) subaenescens* Cki. 1929 (*subaenca* Lec. 1855, nec Sturm nec Steph.). Kirby's name was omitted by Leng, as well as by Csiki (1927-33), but it is preoccupied by *Amara (s. str.) nitida* Sturm 1825.

1389 *Amara fallax* Lec. 1848. Type ♀ (Lake Superior) = 1385 *impuncticollis* Say 1823. The species is extremely variable.

1402 *A. marquetteensis* Csy. 1918. Single type ♀ (Marquette, Michigan) = *lunicollis* Schioe. 1837 (*vulgaris* auct. p. p.).

18751(I) *A. neoscotica* Csy. 1924. Type ♂* (Halifax, Nova Scotia) = 1400 *cupreolata* Putz. 1866. The penis of the type has been compared with that of 1 ♂ from Ottawa (NMW) and this slide, in its turn, with the penis of "*cupreolata* 1" in coll. Lec., a specimen received from Putzeys and probably a cotype. "*A. cupreolata*" in coll. Casey is a different species, unknown to me.

18766(I) *A. carriana* Csy. 1924. Single type ♂ (Edmonton, Alberta) = *lunicollis* Schioe. 1837 (*vulgaris* auct. p. p.).

A. inepta Lec. 1855 (p. 351; omitted in Leng; cf. Horn 1875, p. 127; Csiki 1929, p. 435), according to the type ♀, is not a synonym of 1298 *A. (Celia) erratica* Dft. but a true *Amara s. str.*, unknown to me.

18775(I) *Rembus parallelus* Csy. 1920 = 1444 *obtusus* Lec. 1848. I did not study Casey's type (from Illinois) but the distinguishing characters mentioned by him are all inconstant in *obtusus*. In 1 ♀ from Truro, Nova Scotia, the scutellar stria is totally absent, in 1 ♂ from Halifax it is rudimentary on the left side, short but evident on the right. This specimen has a dorsal puncture on the 2nd stria of the right elytron only.

1471 *Badister pulchellus* Lec. 1848 et auct. is made up of two species, one of which was wrongly called "*bipustulatus* Fbr." (*vide* below).

1472 *B. bipustulatus* Fbr. 1801 does not occur in America. The name was wrongly used for *neopulchellus n. nom.* (*pulchellus* auct. nec Lec.). *Vide* below (p. 153).

1483 *Calathus ingratus* Dej. 1828 (*confusus* Lec. 1854, type ♂* from Lake Superior) is not a synonym of the Palaearctic *micropterus* Dft. 1812, as proposed by Hatch (1938, p. 146), but a clearly different subspecies characterized primarily by the slightly but apparently constantly deviating apex of the penis.

1483(syn.) *C. incommodus* Mnh. 1853. Two types ♂* (Kenai and

"Nikol. red.", Alaska) = *micropterus* Dft. 1812 subsp. *ingratus* Dej. 1828, as generally accepted.

1483b *C. labradorinus* Csy. 1913. Type ♀, 3 paratypes ♂* ♀ (W. St. Modest, Labrador) = *micropterus* Dft. 1812 subsp. *ingratus* Dej. 1828.

1484b *C. coloradensis* Csy. 1913. Type ♀ and paratypes ♂* ♀ (Boulder, Colorado), 1 paratype ♂* (Eldora, Colorado) = 1483 *micropterus* Dft. 1812 subsp. *ingratus* Dej. 1828 (the large form).

18792(I) *C. planifer* Csy. 1920. Single type ♀ (Alaska) = 1483 *micropterus* Dft. 1812 subsp. *ingratus* Dej. 1828.

18793(I) *C. beringi* Csy. 1920. Type ♂* and 10 paratypes (all from Alaska) = *micropterus* Dft. 1812 subsp. *ingratus* Dej. 1828.

18794(I) *C. nanulus* Csy. 1920. Type ♂* and 10 paratypes (all from Alaska and all immature) = 1483 *micropterus* Dft. 1812 subsp. *ingratus* Dej. 1828 (dwarf form).

18798(I) *C. aquilus* Csy. 1920. Single type ♂* (Colorado) = 1483 *micropterus* Dft. 1812 subsp. *ingratus* Dej. 1828.

1487 "*Pristodactyla ambigenis* Bates" from the United States, in all collections seen by me, is not a *Pristodactyla* and not *ambigenis* Bates (compared with the type and numerous paratypes from Mexico in BMN). Whether the "*ambigenis*" auct. is described or not, I have been unable to decide. The parameres of the ♂ are of the *Agonum* type.

1488(syn.) *P. mollis* Eschz. 1823 (nec Mrsh). Original ♀ (Alaska, coll. Mnh., UMH) = 1488 *Calathus advena* Lec. 1848, as generally accepted.

1488(syn.) *P. dulcis* Mnh. 1853. Original ♂* (Kadjak, Alaska) = 1488 *Calathus advena* Lec. 1848, as generally accepted.

1488a *P. lenis* Mnh. 1853. Type ♂* (Kadjak, Alaska) = 1488 *Calathus advena* Lec. 1848. There seems no reason to maintain this form as a subspecies.

1489a *P. convexa* Csy. 1913. Single type ♀ (New York) = 1489 *Synuchus impunctatus* Say 1823, a large but otherwise typical specimen.

1491 *P. arizonica* Csy. 1913. Single type ♂* (Arizona) = 1490 *Synuchus dubius* Lec. 1854.

1492 *P. zuniana* Csy. 1913. Single type ♂* (New Mexico) = 1490 *Synuchus dubius* Lec. 1854.

18799(I) *P. ucomexicana* Csy. 1920. Type ♀ (New Mexico), paratypes ♂* ♀ (Clouderoft, New Mexico) = 1490 *Synuchus dubius* Lec. 1854.

18800(I) *P. binaria* Csy. 1920. Type ♀, 4 paratypes ♂* ♀ (S.

Arkansas) = 1488 *Calathus advena* Lec. 1848.

18801(I) *P. scelopax* Csy. 1920. Type ♂*, 8 paratypes (Colorado) = 1488 *Calathus advena* Lec. 1848.

18802(I) *P. juabitica* Csy. 1924. Single type ♀ (Trout Creek, Juab Co., Utah) = 1490 *Synuchus dubius* Lec. 1854.

1488b(III) *P. brunnescens* Mnh. 1852 (as var. of *mollis* Eschz.). Type ♂* (Atka, Alaska) = 1488 *Calathus advena* Lec. 1848.

1488c(III) *P. breviusecula* Mnh. 1852 (as var. of *mollis* Eschz.). Type ♂* (Atka, Alaska) = 1488 *Calathus advena* Lec. 1848.

1511a *Platynus octofoveolatus* Maekl. 1857. Type ♂* (Kadjak, Alaska, UMH) = 1511 *Agonum (Platynus) mannerheimi* Dej. 1828 sbsp. *stygium* Lec. 1854. It is a common aberration, not worthy of being named.

1536 *P. elemens* Lec. 1863. Type and paratype (Nova Scotia) = 1576 *Agonum (Anchomenus) ruficornis* Gze. 1777 (*albipes* Fbr. 1796).

1541(syn.) *P. molestus* Lec. 1866 (nec Mtsch. 1844; *laevis* Lec. 1854, nec Dej. 1828). The type ♂* ("Middle States") has a penis (fig. 14) quite different from that of *Agonum (s. str.) mutatum* G. & H. 1868 (*atratum* Lec. 1850, nec Dft. 1812) which Leconte himself later (1879, p. 56) regarded as a synonym. Since both *molestum* and *laevis* are preoccupied names, the species must be known as 18910(I) *Agonum (s. str.) fidele* Csy. 1920 (*vide* below).

1546 *P. affinis* Kby. 1837. Type ♂* = 1547 *Agonum (s. str.) carbo* Lec. 1850 and is thus valid. *A. harrisi* Lec. 1848 (according to the type ♀) is a different species. In order to avoid hopeless confusion I propose that the name *affine* Kby. be treated as a "*nomen in praesens suppressum*" until *harrisi* has been generally adopted for the species hitherto regarded as *affine*.

1551 *P. metallescens* Lec. 1854. Casey (1920, p. 114, 122) changed this name into 18907(I) *Agonum (s. str.) lacustre* n. nom., because of the *metallescens* of Dejean (1837, p. 35). But this, as far as I can ascertain, is a *nomen nudum*, never described, and Leconte's name consequently remains valid.

1554 *P. hardyi* Lec. 1879. The 3 types (Newfoundland, coll. Lec.) = *Agonum (s. str.) mülleri* Hbst. 1784 (introduced from Europe).

1573(syn.) *P. strigicollis* Mnh. 1852. Type ♂* (Kaknu, Alaska, UMP) = *Agonum (Agonodromius) bogemanni* Gyll. 1813 (not 1808).

1583 *P. picicornis* Lec. 1860. Type ♂* (Jasper House, Alberta) and 4 additional ex. in coll. Lec. (1 ♂* "Nebraska etc.") = 1582 *Agonum (Euophilus) sordens* Kby. 1837 (dark specimens).

1583(syn.?) *P. similis* Kby. 1837. Two types ♀ belong to a distinct species of *Agonum* (*Europhilus*), related to *consimile* Gyll. (18925 *invalidum* Csy.).

1584(syn.) *P. gratiosus* Mnh. 1853. Two "types" seen, 1 ♀ in UMH, 1 ♂ in coll. Lec. (both from Kadjak, Alaska) = *Agonum* (*Europhilus*) *ruficornae* Lec. 1850, nec Gze. 1777, as generally accepted. Mannerheim's name is valid (*vide lenis*, below).

1586 *P. gemellus* Lec. 1879. Type ♂* (Vancouver, British Columbia) = *Agonum* (*Europhilus*) *thorcyi* Dej. 1828, widely distributed in the Palaearctic Region.

1587 *P. picipennis* Kby. 1837. Type ♀ = 1586 *Agonum* (*Europhilus*) *thorcyi* Dej. 1828 (*gemellum* Lec. 1879). Kirby's "var. d", type ♀ = 1584 *Ag.* (*Eur.*) *gratiosum* Mnh. (*ruficornae* Lec. nec Gze.), as generally accepted. For *Ag.* (*Eur.*) *picipenne* auct. (nec Kby.) the name *dilutipenne* Mtsch. 1864 seems available. The remark "oculis vix prominulis" in the original description seems to exclude *sordens* Kby. which, in addition, is not known to occur as far south as New Mexico.

1587(syn.) *P. lenis* Dej. 1828. According to the original description of the colour of the antennae this must be 1586 *Agonum* (*Europhilus*) *thorcyi* Dej. 1828 (*gemellum* Lec. 1879) (*cf.* Casey 1920, p. 130).

P. 64(without number) *P. exaratus* Mnh. 1853. Type and paratype ♀ (Kadjak, Alaska, UMH) = *Agonum* (*Europhilus*) *aldanicum* Popp. 1905, described from Lena River, Siberia; *exaratus* is thus valid.

18883(I) *Platynomicrus fragilissimus* Csy. 1920. Type ♂ (Toronto) = 1589 *Agonum* (*Platynomicrus*) *nigriceps* Lec. 1848 (brachypterous form).

18886(I) *Scricoda insulina* Csy. 1920. Single type ♂ (Edmonton, Alberta) = 1573 *Agonum* (*Agonodromius*) *bogemanni* Gyll. 1813 (not 1808).

18887(I) *S. invidiosa* Csy. 1920. Type ♀, paratype ♀ (Colorado) = 1573 *Agonum* (*Agonodromius*) *bogemanni* Gyll. 1813 (not 1808).

18888(I) *S. tacomae* Csy. 1920. Type ♀ ("Washington Territory"), 4 additional ex. (British Columbia) = 1573 *Agonum* (*Agonodromius*) *bogemanni* Gyll. 1813 (not 1808).

18908(I) *Agonum terracense* Csy. 1924. Single type ♂* (Terrace, British Columbia) = 1551 *metallescens* Lec. 1854 (18907 *lacustre* Csy. 1920).

18910(I) *A. fidele* Csy. 1920. Type ♂* and paratype ♀ (Rhode Island) = 1541(syn.) *laeve* Lec. 1854 (*molestum* Lec. 1866). Both the

latter names are preoccupied and *fidele* Csy. is therefore valid. *A. mutatum* G. & H. (*atratum* Lec.) is a different species.

18911(I) *A. subinflatum* Csy. 1920. Type ♂*, 2 paratypes ♂ (Bayfield, Wisconsin) = 18910(I) *fidele* Csy. 1920.

18912(I) *A. humile* Csy. 1920. Single type ♂* (Kalispell, Montana) = 1543 *propinquum* G. & H. 1868 (*piccum* Lec. nec L.).

18913(I) *A. insuctum* Csy. 1920. Type ♀, 3 paratypes ♂* ♀ (Wilbur, Washington) = 1543 *propinquum* G. & H. 1868 (*piccum* Lec. nec L.).

18914(I) *A. amicus* Csy. 1924. Type ♂*, paratypes ♂ ♀ (Edmonton, Alberta) = 1543 *propinquum* G. & H. 1868 (*piccum* Lec. nec L.).

18925(I) *A. invalidum* Csy. 1924. Single type ♂ (Edmonton, Alberta) = *A. (Europhilus) consimile* Gyll. 1810, widely distributed in the Palaearctic region.

18928(I) *Europhilus adustus* Csy. 1920. Type ♂ and 1 paratype (Indiana), 4 paratypes ("Levette coll.") = 1588 *Agonum (Eur.) lutulentum* Lec. 1854.

18930(I) *E. collusor* Csy. 1920. Single type ♂ (Montana) = 1585 *Agonum (Eur.) retractum* Lec. 1848.

18931(I) *E. symmetricus* Csy. 1920. Type ♀ (Devil's Lake, North Dakota), 2 paratypes (Kansas; British Columbia) = 1584 *Agonum (Eur.) gratiosum* Mnh. 1853.

18932(I) *E. properans* Csy. 1920. Single type ♀ (New Hampshire) = 1584 *Agonum (Eur.) gratiosum* Mnh. 1853 (unusually dark).

18933(I) *E. facilis* Csy. 1920. Type ♀ and 5 paratypes (Rhode Island) = 1585 *Agonum (Eur.) retractum* Lec. 1848.

18934(I) *E. serenus* Csy. 1920. Type ♂ and 1 paratype (Bayfield, Wisconsin), 3 paratypes (Minnesota) = *Agonum (Eur.) retractum* Lec. 1848.

18935(I) *E. antiquus* Notm. 1922. Type ♂ (Connecticut, AMN) = 1584 *Agonum (Eur.) gratiosum* Mnh. 1853.

18937(I) *E. frosti* Csy. 1924. Single type ♀ (Maine) = 1582 *Agonum (Eur.) sordens* Kby. 1837.

1696 *Blechnus glabratus* Dft. 1812 (not 1825) is not the Palaearctic *Microlestes minutulus* Gze. 1777 (*glabratus* Dft.) but a composite, consisting of several purely American species (cf. Casey 1920, p. 268-271).

1732 *Cymindis evanescens* Csy. 1913, according to the ♂* type (Utah), is distinct from *cribricollis* Dej.

1735 *C. acomana* Csy. 1913. Single type ♂* (New Mexico) =

1738 *cribricollis* Dej. 1831.

1739 *C. rupinontis* Csy. 1913. Single type ♀ (Colorado) = 1738 *cribricollis* Dej. 1831.

1740 *C. marginata* Kby. 1837. Two types ♂* = 1738 *cribricollis* Dej. 1831. In Leng (3rd suppl., 1933) wrongly made a synonym of 1744 *brevipennis* Zimm. (*marginata* Chd. nec Kby.).

1741 *C. alticola* Csy. 1913. Single type ♂* (macropterous) (New Hampshire) = 1738 *cribricollis* Dej. 1831.

19022(I) *C. kirbyi* Csy. 1924. Single type ♂* (Colorado) = 1738 *cribricollis* Dej. 1831.

19023(I) *C. parowana* Csy. 1924. Type ♂*, paratype ♀ (Parowan, Utah) = 1736 *unicolor* Kby. 1837.

19024(I) *C. planifera* Csy. 1924. Single type ♂* (loc. unknown) = 1738 *cribricollis* Dej. 1831.

19026(I) *C. obliqua* Csy. 1924. Single type ♀ (Edmonton, Alberta) = 1738 *cribricollis* Dej. 1831.

19027(I) *C. sinuata* Csy. 1924. Single type ♀ (New Mexico) = 1738 *cribricollis* Dej. 1831.

19028(I) *C. alternans* Csy. 1924. Single type ♀ (loc. unknown) = 1738 *cribricollis* Dej. 1831.

1801 *Miscodera arctica* Payk. 1800 of North America is sub-specifically distinct from the Palaearctic form and should be called sbsp. *americana* Mnh. 1853 (*hardyi* Chd. 1861). Hatch (1933a) wrongly united it with the Siberian sbsp. *erythropus* Mtsch. 1844.

1831a *Chlaenius cordicollis* Kby. 1837 is a valid species, not a subspecies of *leucoscelis* Chev. 1834 (*cf* Darlington 1934). The penis is very different.

1903(syn.) *Harpalus convictor* Csy. 1884. Single type ♂ (Long Island) = 1903 *affinis* Schrank 1781 (*acneus* Fbr. 1792, *viridiaeneus* Beauv. 1805). Casey later suppressed his species (1914, p. 75), but re-established it in 1924 (p. 94).

1904(syn.), 19048(I) *H. rotundicollis* Kby. 1837. Type ♀ = *amputatus* Say 1834.

1920(syn.?) *H. longior* Kby. 1837. Type ♂* of *f. typ.* and type ♂* of "var. b", both = 1925 *H. (Pseudophonus) pennsylvanicus* DeG. 1752. *H. longicollis* Lec. 1848 thus remains valid.

1949 *H. foveicollis* Lec. 1848. Single type ♂* (Maine) = 1956 *herbivagus* Say 1823, with abnormally deep and large foveae of prothorax.

1950 *H. recens* Csy. 1914. Type ♂* (W. St. Modest, Labrador)

= 1956 *nigritarsis* Sahlb. 1817 sbsp. *proximus* Lec. 1848.

1951 *H. acquabilis* Csy. 1914. Single type ♀ (Colorado) = 1944 *pleuriticus* Kby. 1837.

1952 *H. lascivus* Csy. 1914. Single type ♂* (British Columbia) = 1944 *pleuriticus* Kby. 1837.

1953 *H. pumilio* Csy. 1914. Single type ♀ (Bayfield, Wisconsin), additional ♀ (Edmonton, Alberta), both immature, = 1944 *pleuriticus* Kby. 1837.

1954 *H. perspicuus* Csy. 1914. Single type ♂*, immature (Boulder, Colorado) = 1944 *pleuriticus* Kby. 1837.

1955 *H. lividulus* Csy. 1914. Type ♂*, paratype ♂ (Bayfield, Wisconsin) and 7 additional ex. = 1944 *pleuriticus* Kby. 1837.

1956a *H. proximus* Lec. 1848 is not a sbsp. of *herbivagus* Say, but of the Palaearctic *nigritarsis* Sahlb. 1817. The single type is a ♀ from Lake Superior.

1959 *H. placidus* Csy. 1884. Type ♂* (New Jersey) and 3 additional ex. = 1944 *pleuriticus* Kby. 1837.

1968 *H. opacipennis* Hald. 1843 is different from 1969 *plenalis* Csy. 1914, as assumed by the latter (p. 113), according to an original ex. of *opacipennis* (without loc., coll. Lec.), which can be regarded as the type.

1998(syn.?) *H. ochropus* Kby. 1837. The single type ♂* is different from *desertus* Lec. of which Dr. Darlington sent 1 ♀ from New Mexico agreeing in all essential characters with Leconte's ♀ type (MCZ).

2006(syn.?) *H. basilaris* Kby. 1837. Types ♂* ♀ belong to the species generally passing under this name or *obesulus* Lec. 1852. Kirby's name is valid.

2006(syn.) (III) *H. extensus* Walk. 1866 ("*Amara extensa*"). Type ♀ (British Columbia, BMN) = *basilaris* Kby. 1837 (*obesulus* Lec. 1852), as already accepted by Csiki (1932, p. 1180).

19078(I) *H. nivalis* Csy. 1924. Single type ♂* (Saskatchewan) = 1944 *pleuriticus* Kby. 1837.

19087(I) *H. modulatus* Csy. 1924. Single type ♀ (Quebec) = 1969 *plenalis* Csy. 1914.

19088(I) *H. leviceps* Csy. 1924. Type and 4 paratypes, all ♀ (Marquette, Michigan) = 1969 *plenalis* Csy. 1914, or possibly a different subspecies.

2091 *Anisodactylus interpunctatus* Kby. 1837. Types ♂*, 2 ♀ = 2090 *nigrita* Dej. 1829 (nec Lec.). The *interpunctatus* auct. (*lecontei* Chd. nec G. & H., *nigrita* Lec. nec Dej.) thus lacks a name and I

propose for it **Anisodactylus kirbyi n. nom.** It differs from *nigrita* Dej. in having only one setigerous puncture each side of the clypeus and in the penis, which is more arcuate, more strongly pigmented in the apical half, and with a rough longitudinal sculpture of the surface. As holotype ♂ and allotype ♀ I designate a pair from Cheticamp, Nova Scotia, in DAO.

2146a *Trichocellus ruficus* Kby. 1837. Single type = *cognatus* Gyll. 1827. There is no reason to regard the North American population as a different subspecies.

21723(III) *Trichocellus porsildi* Brown 1948 apparently belongs to the subg. *Orcoxenus* but differs from the Eurasian *mannerheimi* F. Sahlb. (*ponojensis* J. Sahlb., *setiporus* Reitt., *orcophilus* J. and K. Dan.) by the narrower, more pointed penis (cf. Lindroth 1943, fig. 21). I have seen *porsildi* from Alaska (NMW), Manitoba (DAO), Labrador (NMW, DAO) and Colorado, the latter specimen from Leavenworth Valley (10–11,000 ft.) 15. VI. 26, H. F. Wickham, 1 ♀ (MCZ).

20746(II) *Triliarthrus frosti* Fall 1930. Type ♂* (Natick, Massachusetts) = 2160 *protractus* Csy. 1914 (type ♂*, Massachusetts).

2163(syn.) *T. similis* Kby. 1837. Type ♀ of *f. typ.*, type ♂* of "var. b", both = 2261 *Agonoderus comma* Fbr. 1801.

2171(syn.) *Stenocellus flavipes* Kby. 1837. Types ♂* ♀ = *Bradycellus* (*Sten.*) *rupestris* Say 1823. Leng has this synonymy but at the same time incorrectly lists *flavipes* Kby. as a synonym of 915 *Trechus hydropicus* Horn 1883.

2213(syn.?) *Aeupalpus immunitis* Kby. 1837. Types ♂*, 2 ♀ = 2238 *Stenolophus conjunctus* Say 1823.

DISCUSSION OF CERTAIN SPECIES GROUPS

In the arrangement of species in his list Leng usually followed Casey, using the divisions into major groups proposed by that author. This usually involved splitting up the larger, old genera. On the other hand, there is a clear tendency among recent coleopterists — with the exception notably of Jeannel — *against* such splitting. How impractical "splitters" can make their nomenclature is shown by lepidopterists, and most of us would prefer to go in the other direction, to make the genera as large as possible and change the "modern" micro-genera into subgenera for the use of specialists. Also, among Carabidae, it is inconsistent to retain *Bembidion* and *Harpalus* as collective genera but to break up *Pterostichus*, *Amara*, and *Agonum*

(*Platynus*) into numerous small ones, as done by Casey.

Another trouble is that many subgeneric and several generic names have been used in different senses on opposite sides of the Atlantic. Sometimes, as in *Bembidion*, the American subgenera (created by Casey) show almost no correspondence with the names used for Old World groups. In order to encourage comparisons, I have tried in the list above to apply generic and subgeneric names used for Palaearctic fauna to appropriate American species.

1. BEMBIDIION

In this genus, the largest in the family, agreement on the use of subgeneric names is particularly desirable. Some attempts to give North American species their proper place in Palaearctic subgenera have already been made by Netolitzky (especially in the important paper of 1942-43). Here follows a similar, more extensive review of the American species known to me, based largely on male genitalia.

Chrysobracteon Net. (*s. l.*): The species from 408 *inaequale* to 419 *punctatostriatum*, and 18612(I) *carrianum*, 21695(III) *lapponicum* (*bryanti*). The division of this subgenus into 6 new ones (Netolitzky 1942-43) was unfortunate and unnecessary.

Braecton Bed.: 424 *bowditchi*.

Odontium Lec.: 420 *carinatum*, 421 *sculpturatum*, 426 *confusum*, 429 *coxendix*.

Ochthedromus Lec.: 431 *bifossulatum*, 432 *americanum*.

Bracteomimus n. subg. (type *chaliceum* Dej.): 591 *honestum*, 592 *chaliceum*.

Hydrium Lec.: 438 *nitidum*, 439 *obliquulum*, 440 *laevigatum*.

Metallina Mtsch.: 675 *dyschirinum*, *lampros* Hbst. (figs. 2, 9a), *properans* Steph. (figs. 2, 9b).

Actedium Mtsch.: 20700(II) *lachnophoroides*.

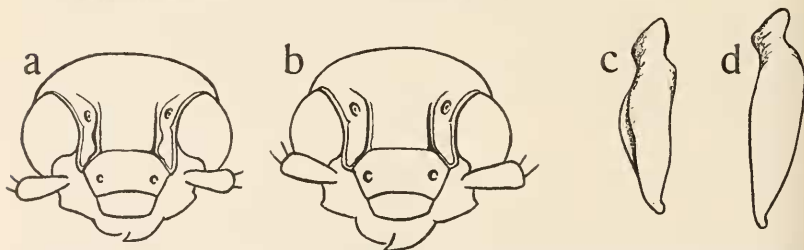


Fig. 2. a, b, head with frontal grooves; c, d, penis, seen from the convex dorsal side. a and c, *Bembidion lampros* Hbst., b and d, *B. properans* Steph.

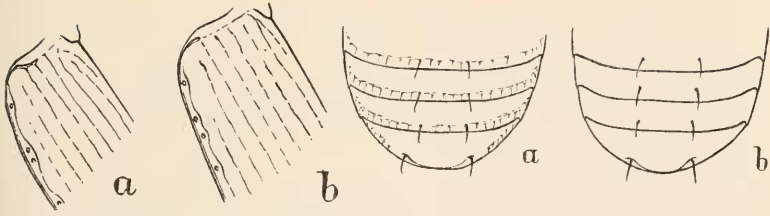


Fig. 3. At left. Left shoulder of: *a*, *Bembidion*, subg. *Plataphodes*; *b*, subg. *Plataphus* and *Blepharoplastaphus*.

Fig. 4. At right. Last ventral segments of: *a*, *Bembidion*, subg. *Blepharoplastaphus*; *b*, subg. *Plataphus* s. str.

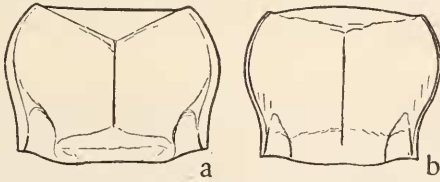


Fig. 5. Prothorax of: *a*, *Bembidion hyperboraeorum* Munst.; *b*, *B. hasti* Sahlb. Scandinavian specimens.

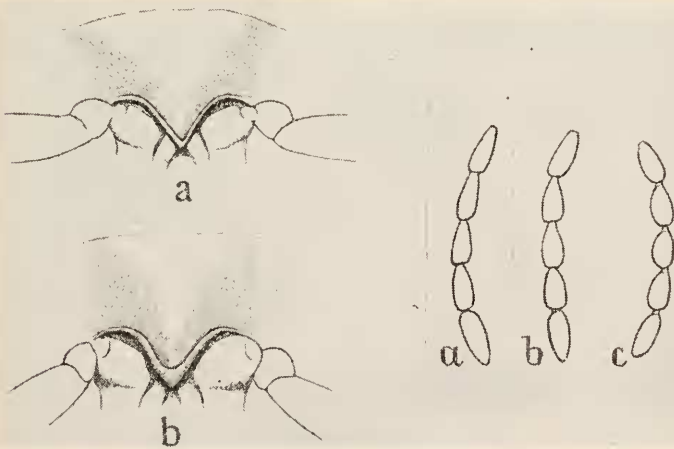
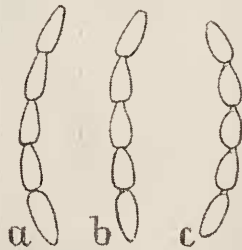


Fig. 6. At left. Metasternum between the middle coxae of: *a*, *Bembidion grapei* Gyll.; *b*, *B. yukonum* Fall. Scandinavian specimens.

Fig. 7. At right. Last 5 joints of antennae (tip down) of: *a*, *Bembidion yukonum* Fall; *b*, *B. grapei* Gyll.; *c*, *B. dauricum* Mtsch. Scandinavian specimens.



Trechonepha Csy. (vide Netolitzky 1942-43, p. 17): 460 *funereum*, 467 *iridescens*, 486 *simplex*.

Plataphodes Ganglb. (fig. 3a): 498 *complanulum*, 501 *quadrifoveolatum*, 502 *incertum* (penis, fig. 10d), 18620(I) *occultator*, *erenulatum* F. Sahlb. sbsp. *farrarae* Hatch.

Plataphus Mtsch. (fig. 3b): 474 *gebleri* sbsp. *turbatum*, 476 *rusticum*, 480 *gratiosum*, 482 *planatum*, 487 *planiusculum*, 492 *flebile* with 18623(I) sbsp. *carolinense*, *hyperboraeorum* Munst., *lenense* Popp.

Blepharoplataphus Net. (if considered distinct from *Plataphus*): *hasti* Sahlb.

Hirmoplataphus Net.: 512 *nigrum*, 514 *quadrulum*, 521 *salebratum* (*concolor* auct.), 523 *recticolle*, 529 *longulum* (*concolor* Kby.), 530 *humboldtiense*.

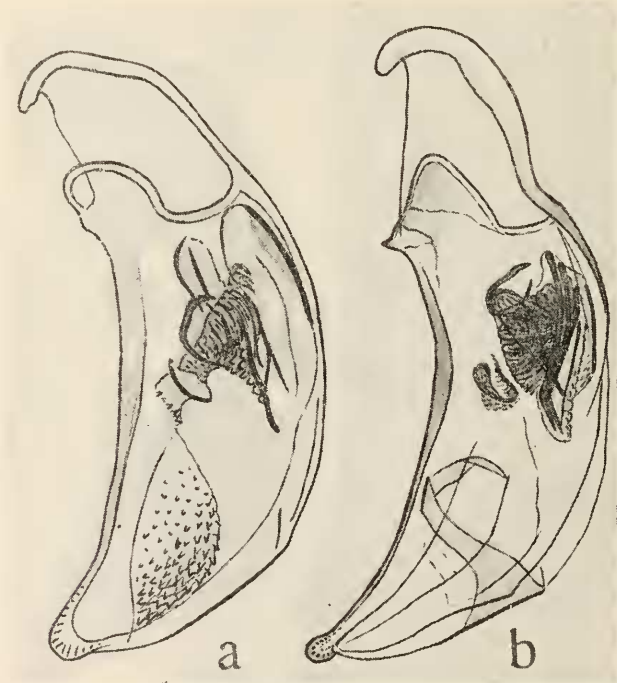


Fig. 8. Penis of: a, *Bembidion lapponicum* Zett. (*bryanti* Carr); b, *B. rupestre* L. Scandinavian specimens.

Trichoplataphus Net.: 533 *planum*, 536 *fugax*, 600 *grandiceps*.

Peryphus Steph.: 540 *transversale*, 547 *lugubre*, 560 *grapei* (figs. 6, 7, 12), 572 *lacunarium* (*picipes* auct.), 573 *scopulinum*, 575 *bimaculatum* and *sordidum*, 577 *postremum*, 579 *striola*, 581 *consanguineum*, 582 *stephensi* (*canadense*), 584 *petrosum* (*lucidum*), 586 *nevadense*, 588 *ustulatum*, 588a *rupicola*, 594 *sejunctum* with 18642(I) sbsp. *semiaurum*, 599 *obscurellum* (*fuscicrus*), 20704(II) *yukonum*, *dauricum* Mtsch, *rupestre* L.

Davida Net.: 20705(II) *mekinleyi*.

Hydriomierus Csy.: 552 *brevistriatum*, 553 *californicum*, 604 *semi-striatum*, 18663(I) *quadratum*.

Eupctedromus Net.: 680 *graciliforme*, 681 *incrementum*, *immaturum* n. sp.

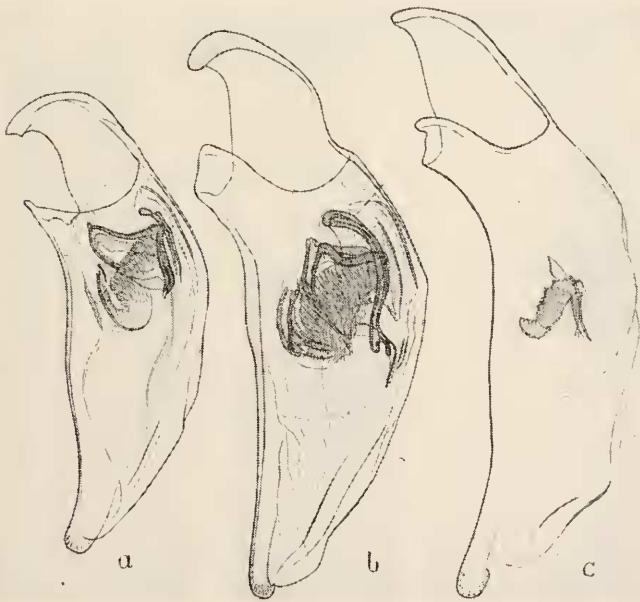


Fig. 9. Penis of: a, *Bembidion lampros* Hbst. (Finland); b, *B. properans* Steph. (Sweden); c, *B. simplex* Hayw. (Type, Mt. Washington, New Hampshire.)

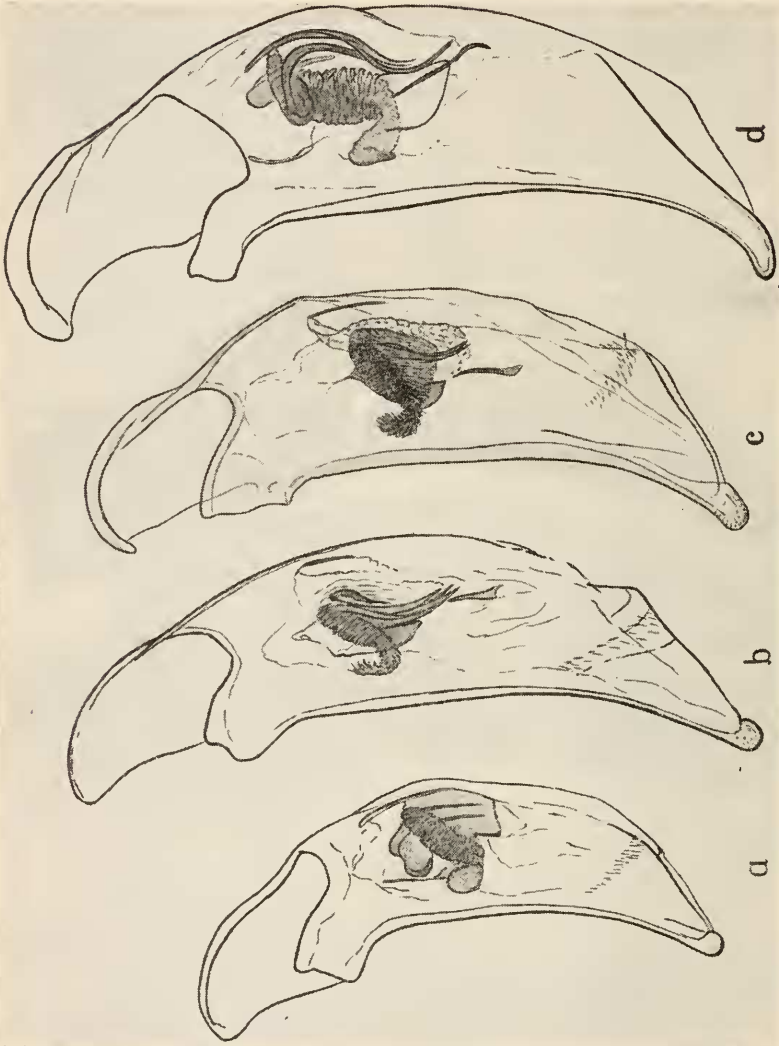


Fig. 10. Penis of: a, *Bembidion complanatum* Mnh. (penis compared with lecto-holotype; Paradise Park, Mt. Rainier, Washington, i.e. loc. class. of *parvulum* Notm.); b, *B. quadrijoveolatum* Mnh. (lecto-holotype, Sitka, Alaska); c, *B. crenulatum* F. Sahlb. (type, Oehotsk, Siberia); d, *B. incertum* Mtsch. (lecto-type of *testaceolum*).

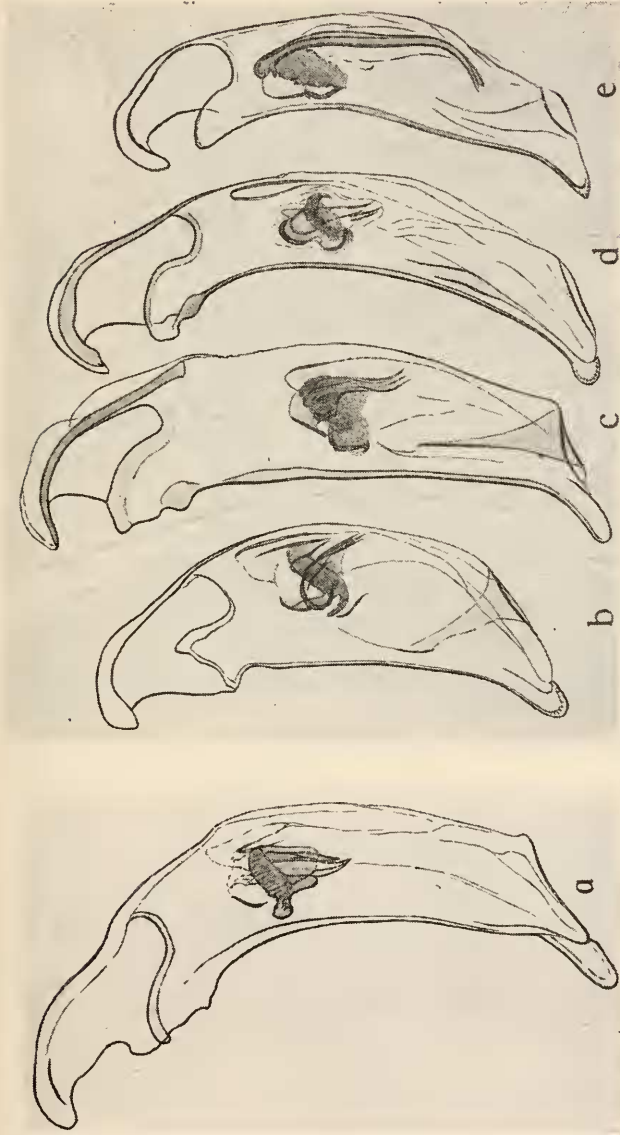


Fig. 11. Penis of: a, *Benbidion planiusculum* Mnh. (lecto-holotype, Sitka, Alaska); b, *B. hasti* Sahlb. (Norway); c, *B. hyperboreaorum* Munst. (Sweden); d, *B. gebleri* Gebl. (Siberia); e, *B. tenense* Popp. (Glenbournie, Benne Bay, Newfoundland).



Fig. 12. Penis of: a, *Bembidion mekirtleji* Fall (*scandiacum* Lindr.); b, *B. grapei* Gyll. (*picipes* Klyg., *nitens* Lec.); c, *B. yakonum* Fall (*grapeoides* Munst.); d, *B. dauricum* Mtsch. All drawn from Swedish specimens.

Notaphus Steph.: 606 *coloradense*, 612 *nigripes*, 617 *variolosum*, 618 *umbratum*, 625 *approximatum*, 641 *indistinctum*, 648 *posticum*, 651 *patruele*, 655 *rapidum*, 659 *versutum*, 660 *variegatum*, 683 *insulatum*, 686 *viridicolle* (*cordatum*), 687 *nubiculosum*, 694 *contractum*, 695 *constrictum*.

Furcacampa Net.: 705 *affine*, 707 *impotens*, 713 *decipiens*, 724 *minus* (*pellax*), and probably all species, as far as distinct, between 705 and 724. The subgenus was established on *affine* (Netolitzky 1931, p. 158) and named after the partially doubled frontal grooves. Though this fits *affine* only, the name must be applied also to the other members of the group, listed above, their close relationship with *affine* being shown by the inner armature of the penis. In any case the frontal grooves show a common external character: they are parallel between the eyes, with a more or less evident convergent prolongation on each side of the clypeus *inside* the setigerous puncture (lacking in *Notaphus*). Members of the Palaearctic subg. *Trepanes*, e.g. *octomaculatum* Gze., are generally similar but have straight frontal grooves, converging for their whole length. The armature of the internal sac of the penis is essentially different in *Trepanes* as well as in *Notaphus*.

Semicampa Net.: 725 *musvicola*, 755 *roosevelti* (*perconcinnum*), 18662(I) *semicinctum*, *browni* n. sp.

Bembidion s. str. (*Lophu* Steph.): 734 *quadrinaculatum* L., 741 *dubitans*, 744 *pedicellatum*, 747 *mutatum*, 749 *praeinatum*.

Diplocampa Bed. (nec Csy.): 754 *transparens* (*suleatum*).

Trepanedoris Net. (*Diplocampa* Csy.): 759 *frontale*, 764 *acutifrons*, 772 *cautum*, 776 *anguliferum*.

Amerizus Chd.: 778 *oblongulum*, 779 *spectabile*.

2. BADISTER PULCHELLUS group

The old record of the Palaearctic *bipustulatus* Fbr. from Vancouver (Leconte 1880, p. 165) has suggested a comparison between the bright, spotted *Badister* of America and of Europe. The two "*bipustulatus*" males in coll. Leconte prove, by a genital slide (fig. 13d), to be identical with the common American species usually known as "*pulchellus* Lec." But this is *not* the same as Leconte's type of the species (labelled "Western States", i.e. Evansville, Indiana, *vide* Leconte 1848, p. 418), which differs from all the rest of his specimens ("*pulchellus*" auct.). The original description states that the basal joints of antennae are pale, which fits the type specimen only. It is a small insect (5 mm.) with the elytra shorter and less parallel-sided than in the common

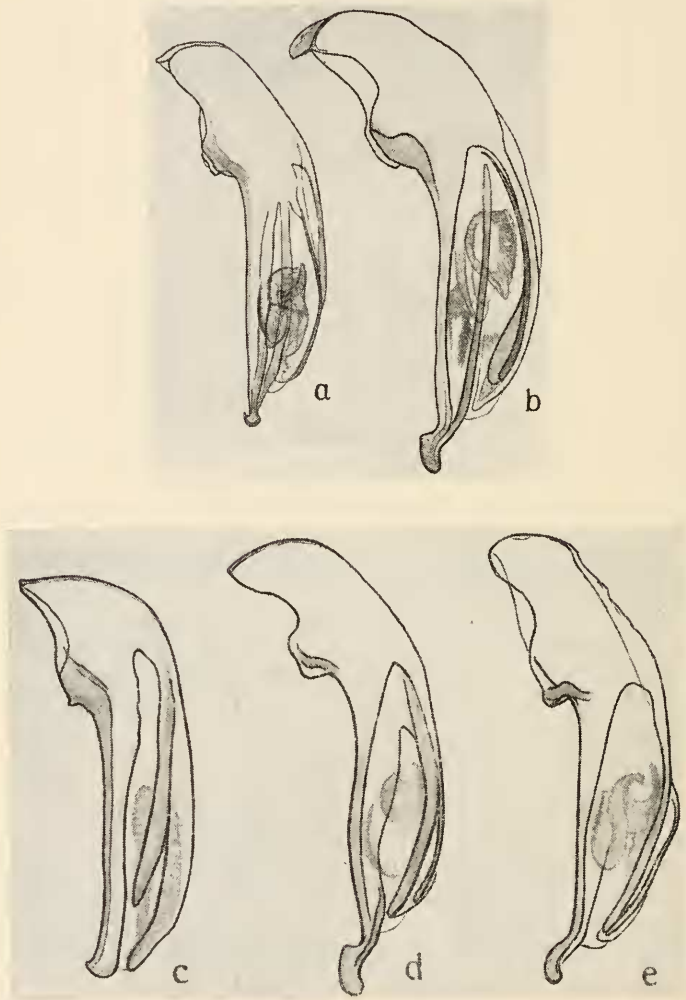


Fig. 13. Penis of: a, *Badister bipustulatus* Fbr. (Gotland, Sweden); b, *B. unipustulatus* Bon. (Öland, Sweden); c, *B. pulchellus* Lec. (type); d, *B. neopulchellus* n. sp. (Wayland, Massachusetts); e, *B. obtusus* Lec. (Isle Royal, Michigan; immature);

species, and with more arcuate basal margin inside the shoulders; the prothorax is not (or, in the second ex., *vide* below, very feebly) margined at base; and the antennae have three completely pale basal joints. The penis (fig. 13c) has a quite different apex which places the species near the Palaearctic *bipustulatus* (fig. 13a). In "*pulchellus* auct." the base of prothorax is evidently margined, at least laterally, and the second and third antennal joints, and usually also the first, are more or less darkened. The true *pulchellus* Lec. must be very rare. I have seen only one additional ex., a ♂ from Selma, Alabama (NMW), in which the antennae are still paler, the darkening from the fourth joint being inconspicuous.

The common species lacks a name, no synonym being available, and I propose to call it **neopulchellus n. sp.** As type locality I designate West Roxbury, Massachusetts (P. G. Bolster), from where 11 ex., including the holotype ♂ and allotype ♀, are in MCZ. Its nearest relative in North America is *obtusus* Lec. This species was described (1878, p. 594) as "unspotted" but the elytra of the single type ♀ show a clear, though feeble, trace of the characteristic pattern common to the other species here treated. A similarly coloured ♂ from Isle Royal, Michigan (coll. Fall, MCZ) and another from Aweme, Manitoba (NMW) have a penis (fig. 13e) closely resembling that of *neopulchellus* but with a slightly different apex. In the Palaearctic *unipustulatus* Bon. (fig. 13b) the penis is even more similar.

The easiest way to separate *obtusus* from *neopulchellus*, except on colour (which may be difficult in immature specimens), is by the elytral microsculpture which in *obtusus* (both sexes) is much stronger, forming evident, transverse meshes, whereas in *neopulchellus* it consists of extremely feeble transverse lines with no tendency to form meshes. This is apparently the reason why *neopulchellus* has iridescent elytra, *obtusus* not.

3. AGONUM MELANARIUM group

No carabids studied by me were found to be more utterly in confusion in North American museums than the species of *Agonum* (*Platynus*) listed in Leng's List as nr. 1538-1552, with several additional Casey species in the first supplement. Casey (1920, p. 111) named this group subg. *Melanagonum*, but a European coleopterist would treat them as belonging to *Agonum s. str.* The difficulties, no doubt, are due partly to the unimportant and largely inconstant

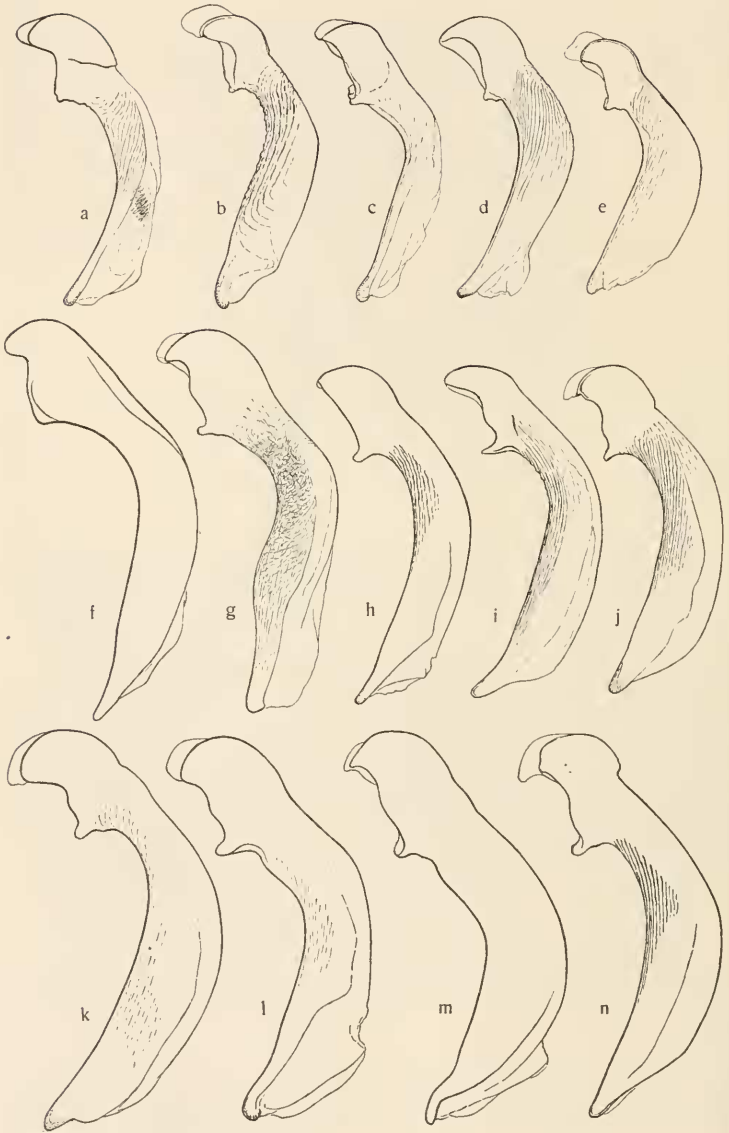


Fig. 14. Penis (side view) of *Agonum s. str.* ("b" to "e" less magnified than the rest):

- a, *collaris* Say (det. Darlington) Pennsylvania;
- b, *mutatum* G. & H. (type of *atratum* Lec.) Lake Superior;
- c, *fidele* Csy. (type of *laeve* Lec. and *molestum* Lec.) "Middle States";
- d, *carbo* Lec. (original Leconte specimen) Lake Superior;
- e, *metallescens* Lec. (original Leconte specimen) Hudson Bay Territory;
- f, *arizonensis* Horn (det. Darlington) Arizona;
- g, *moerens* Dej., Lec. (*tenue* Lec.?) Halifax, Nova Scotia;
- h, *propinquum* G. & H. Deer Lake, Newfoundland;
- i, *fraterculum* Lec. (det. Fall) Salmon Arm, British Columbia;
- j, *deceptivum* Lec. (original Leconte specimen) Nova Scotia;
- k, *harrisi* Lec. Cheticamp, Nova Scotia;
- l, *trigeminum* n. sp. Halifax, Sackville, Nova Scotia;
- m, *melanarium* Dej., Lec. Cheticamp, Nova Scotia;
- n, *frater* Lec. (original Leconte specimen) California.

external characters separating these species, but in part also to the unfortunate way in which Leconte, in his synoptic table (1879), grouped them, mainly according to the position of the dorsal punctures of elytra, a character which is liable to considerable variation. Actually, because of the excellent characters in form and surface sculpture of the penis, the North American species can be more easily separated than those of the corresponding Palaearctic group of *viduum* Panz. etc., though the latter is less numerous in species. Therefore, as a starting point for interested students, drawings of the penis of the North American species known to me are here given (fig. 14).

Of the species figured, *collaris* Say and *arizonensis* Horn show little relation to the rest; i.e. the penis of *collaris* is the only one possessing chitinized parts (forming a group of teeth) in the internal sac. Casey (1920, p. 124) was therefore right in removing *collaris* from the "*melanarium*-group". The species most likely to be confused on penis characters are: *frater* Lec. with *deceptivum* Lec., and *melanarium* Dej. (& Lec.) with *trigeminum* n. sp. But within each pair of species a separation is easily made on external characters, for one species of each pair (*frater* and *melanarium* respectively) have well defined hind-angles of the prothorax.

The penis figured in fig. 14-l belongs to a species which I first considered identical with either *corvus* Lec. or *hyslopi* Csy. Of the former I have seen a ♀, checked with Leconte's ♀ type by Darlington. It is a different species, with slenderer maxillary palpi, deeper elytral

striae, etc. I made a genital slide of the ♂ type of *hyslopi* in the Casey collection (NMW) but failed to draw it. A figure of the penis later sent by Blackwelder is essentially different. The species in question thus seems to be undescribed. I propose to call it

Agonum (s. str.) trigeminum n. sp.

Deep black without any trace of metallic lustre; tarsi and bases of tibiae sometimes slightly piceous.

Closely similar (related) to *fidele* Csy. (*laeve* Lec., *molestum* Lec., *subinflatum* Csy.) with which the female may be confused. The new species is slightly larger on an average, and its prothorax is broader with more broadly reflexed sides; the posterior setigerous puncture is a little removed from the side margin, and the depressed area surrounding this puncture usually does not (as in *fidele*) cause pronounced jag of the side margin (median view!); the maxillary palpi, especially their second joint, are more slender; and the microsculpture of elytra is more open than in *fidele* and its lines show a much clearer tendency to form meshes which are only slightly transverse, this difference being most evident in the female.

From *mutatum* G. et H. (*atratum* Lec.), to which also it is closely related and which agrees in elytral microsculpture, the new species is most easily separated by larger size and by the longer and, in proportion to the prothorax, much broader elytra. Furthermore the head is more narrowed forwards in *mutatum*, in which the side margins in front of the eyes are not parallel-sided as in *trigeminum* but closely convergent.

Length 8.3–10.0 mm.

The penis (fig. 14) is quite different in all three species. In *trigeminum* (fig. 14-l) it is stout, strongly arcuate, without conspicuous surface sculpture.

Holotype ♂ and allotype ♀: Sackville, Halifax, Nova Scotia, 20.V.1951 (Lindroth, DAO). 7 paratypes: same locality, 1 ♂; Waverley, Halifax, 21.V.1951, 2 ♂, 1 ♀; Riversdale, Truro, Nova Scotia, 22.V.1951, 1 ♂; Lapland, Lunenburg, Nova Scotia, 1.IX.1952, 1 ♂ (D. C. Ferguson); Rummey, New Hampshire, 13.VI.1924, 1 ♂ (P. J. Darlington). The paratypes are distributed among the following museums: MCZ, NMW, Nova Scotia Museum of Science (Halifax), Zoological Institute of the University, Lund (Sweden).

Ecology. In Nova Scotia *trigeminum* occurs in company with *fidele*

at the margin of eutrophic ponds and pools with dense vegetation of Carices etc. It is very hygrophilus. In contrast, *mutatum* is a bog species, as a rule living in sphagnum.

SPECIES NEW TO AMERICA

The following 15 species, as far as I can judge, are not known previously under any name in North America. Four of them, apparently undescribed, are probably genuine, native American species. The rest are previously known from the Palaearctic region, and four of them (*Nebria brevicollis*, *Bembidion properans* and *rupestre*, *Pterostichus strenuus*) no doubt are recent introductions. Three of the new species will be described in my Newfoundland paper; the fourth (*Agonum darlingtoni*), is briefly diagnosed below and will be more fully described in connection with a revision of the subg. *Europhilus*.

Diachila polita Fald. 1835. Distinguished from *arctica* Gyll. sbsp. *amoena* Fald. (*subpolaris* Lec.) by the lack of a carina inside the hind angles of prothorax. The wings are constantly vestigial. Alaska (NMW! MCZ!), North West Territory (DAO!).

Blethisa eschscholtzi Zoubk. 1829. Large as *quadricollis* Hald., with a very characteristic prothorax, almost rectangular, with parallel sides in the posterior half, strictly rectangular hind-angles, and strong, straight basal carinae, converging forward. Texas (Sanderson, 1 ♀, NMW).

***Notiophilus intermedius* n. sp.** This species, to a certain degree intermediate between *simulator* Fall and *directus* Csy. (*lanci* Hatch), but well characterized by its penis, will be described in my Newfoundland paper. Known also from Labrador, Manitoba and Alaska.

Nebria brevicollis Fbr. 1792. This European introduction, known only from 1 ex. from the French island Miquelon (S. of Newfoundland), is at once distinguished from all indigenous North American species by the hairy upper surface of the tarsi, and belongs to the subg. *Helobia*.

Bembidion (Metallina) properans Steph. 1829. Differs from *lampros* Hbst. by the straight, not laterally dilated frontal grooves (fig. 2b) and by the quite different penis (figs. 2d, 9b). An introduced species, known from Nova Scotia only.

B. (Plataphus) lenense Popp. 1906. Similar to *rusticum* Csy. but averaging larger, with more parallel-sided elytra and more or less darkened legs. The penis (fig. 11e) is quite different and shows a

close relationship to the Palaearctic *prasinum* Dft. There is complete agreement, including the penis, with Poppius' type specimen from River Lena, Siberia (UMH). Individuals with rufescent elytra are not rare. Alaska, Yukon Territory, British Columbia, Labrador, Newfoundland.

B. (Pl.) hyperboracorum Munst. 1923. Similar to *rusticum* Csy. and *lenense* Popp., but with completely dark antennae and legs. Prothorax almost rectangular, with very feebly sinuate sides (fig. 5a). Differing from the similarly coloured *planiseulum* Mnh. by the broadly rounded tip of the elytra. Penis, fig. 11c. Alaska, North West Territory.

B. (Blepharoplastaphus) hasti Sahlb. 1826. Distinguished from all true *Plataphus* by the fringe of minute hairs on each of the last ventral segments of the abdomen (fig. 4a) and therefore belonging to subg. *Blepharoplastaphus*, of which I have seen no other representative from North America (cf. Netolitzky 1942-43, p. 80). Prothorax, fig. 5b. British Columbia, North West Territory, Manitoba, Quebec, Labrador.

B. (Peryphus) dauricum Mtsch. 1844. Externally similar to *grapei* Gyll. (*picipes* Kby., *nitens* Lec.) but easily distinguished by the ovi-form last antennal joints (fig. 7), the (especially in the ♀) network-like microsculpture at the tip of elytra, and the penis (fig. 12d). Alaska, North West Territory, Manitoba.

B. (Per.) rupestre L. 1767. Easily distinguished from all other four-spotted *Peryphus* (*ustulatum* L., *petrosom* Gebl., etc.) by the microsculpture of the prothorax extending over its whole disc. The femora are always darkened. Penis, fig. 8b. Quebec, New Brunswick, Nova Scotia, Newfoundland. Introduced.

B. (Eupetedromus) immaturum n. sp. Narrower than *inermatum* Lec., very pale, with apical part of penis much shorter. To be more fully described in my Newfoundland paper. New Hampshire, Quebec, Nova Scotia, Newfoundland.

B. (Semicampa) browni n. sp. A small, very dark species which will be described in my Newfoundland paper. Cooks Harbour, Newfoundland; Churchill, Manitoba.

Pterostichus (Argutor) strenuus Panz. 1797. Closely related to *patruclis* Dej. and the other species united by Casey (1918, p. 378) as genus *Micromascus*, and like *femorialis* Kby. with coarsely punctured prosternum, but *strenuus* is smaller (6-7.2 mm.) with the prothorax with pronouncedly sinuate sides before the hind angles which are sharp and right, and with a more extensively punctured base. Newfoundland only. Introduced.

Agonum (Euophilus) darlingtoni n. sp. This small species, at once recognized by the densely transverse microsculpture of the elytra, will be described in a special paper. Connecticut, Massachusetts, Nova Scotia.

Harpalus fuliginosus Dft. 1812. Very characteristic in appearance, the prothorax being an exact copy of that of *Xestonotus lugubris* Dej., but the antennae being quite pale. Probably transamerican, from Newfoundland and Labrador to Alaska.

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